Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 09.02.98 : ISO 4113

Combination No. : F 000 409 005

Injection pump

Pump designation : PES6P110A720RS3396 EP type number : F 000 400 004

Governor

Governer design. : RQV300...1300PA1379K

Governer no. : F 000 420 504

Cust. part No. : 0280742402

Customer-spec. information

Customer : MBB

Motor : OM366LA-EURO II

Power KW : 155.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.3

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : **←** 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter : 3.0 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.20 : + 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.00 Tolerance mn: +- 0.05

Del. quantity

cm3/1000 strokes : 115.5

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance cm3/1900 strokes : 4.0	+ Tolerance + cm3/1000 strokes : +- 1.0 - Check tolerance
Check tolerance cm3/1000s. : 7.5	cm3/1000s. : + 4.0 + Spreed + Tolerance
	+ cm3/1000 strokes : 4.0
Rated speed rpm : 300	t Check tolerance cm3/1000s. : 7.5
Rack travel in mm : 5.60 Tolerance mm : + 0.20	
Del. quantity cm3/1000 strokes : 10.0	+ CONTROL LEVER
Tolerance cm3/1000 strokes : +- 2.5 Check tolerance	+ control lever + position degree : 110.0 + toleranc≥ degree : + 4.0
$cm3/1000s.$: \leftarrow 5.0	+
Spreed Tolerance cm3/1000 strokes : 4.5	+ RATED SPEED + rack travel mm : 12.90 + Rated speed rpm : 1340
Check tolerance cm3/1000s. : 7.5	Tolerance 1/min : +- 5
CIR.2/ (UUU3 /	rack travel mm : 4.00 Rated speed rpm : 1485
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ Rated speed rpm : 1485 + Tolerance 1/min : +- 15
MILLI GOVERNOR	rack travel mm : 0.50
GUIDE SLEEVE TRAVEL	Rated speed rpm : 1600
Rated speed rpm : 1356 guide sleeve	+
travel mm : 9.16 Tolerance mm : + 0.10	LOW IDLE
Rated speed rpm : 300 guide sleeve	t control lever
travel mm : 1.45 Tolerance mm : + 0.25	position degree : 65.0 tolerance degree : + 4.0
Rated speed rpm : 530	+ Setting point w/out bumper spring
guide sleeve travel mma : 4.01 Tolerance mm : + 0.25	Rated speed rpm : 200
Rated speed rom : 1720	CRT mm min. :> 7.00
guide sleeve travel mm : 13.50	Testing:
Tolerance mm : + 0.25	Rated speed rpm : 300 + rack travel mm : 5.60 + Tolerance mm : + 0.20
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 425
Rated speed rpm : 1300 Aneroid pressure	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
hPa : 1000 Del. quantity	TORQUE CONTROL Rated speed rpm : 1300
cm3/1000 strokes : 115.5	rack travel mm : 14.00 Tolerance mm : + 0.05

		† Tolerance
Rated speed rpm	: 600	+ cm3/1000 strokes : +- 2.0
rack travel ma		+ Check tolerance
Tolerance mm		+ cm3/1000s. : $+$ 5.0
		1,0000
Rated speed rpm	: 780	
rack travel mm		Aneroid pressure
Tolerance mm		hPa : 1000
10 cer ance min	0.05	
Poted spend pur	: 1000	
Rated speed rpm	. 47.70	rack travel mm : 13.25
rack travel mma Tolerance mma	: 13.70	Tolerance mm : +- 0.05
loterance mm	: +- 0.05	+ Del. quantity
		+ cm3/1000 strokes : 96.0
		† Tolerance
ANEROID/ALTITUDE		+ cm3/1000 strokes : + 2.0
COMPENSATOR TEST		+ Check tolerance
		+ cm3/1000s. : + 5.0
		+
SETTING		
- • • • • • •		Aneroid pressure
Rated speed rpm	: 600	+ hPa : 1000
Pressure hPa	: 1000	+ Rated speed rpm : 1000
rack travel mm	: 13.00	Del. quantity
Tolerance mm		cm3/1000 strokes : 104.5
loterance min	. — 0.03	
0-4-4-5		+ Tolerance
Rated speed rpm	: 600	+ cm3/1000 strokes : + 2.0
Pressure hPa	: -	+ Check tolerance
		+ cm3/1000s. : $+$ 5.0
MEASUREMENT		†
Rated speed rpm	: 600	+ Aneroid pressure
		+ hPa : -
Pressure hPa	: 250	Rated speed rpm : 500
rack travel mm	: 0.40	+ Del. quantity
Tolerance mm	: ← 0.05	+ cm3/1000 strokes : 37.0
Tolerance mm	: + 0.05	
		Tolerance
Pressure hPa	: 500	Tolerance - cm3/1000 strokes : + 1.0
Pressure hPa rack travel mm	: 500 : 1.70	Tolerance - cm3/1000 strokes : +- 1.0 - Check tolerance
Pressure hPa	: 500	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0
Pressure hPa rack travel mm	: 500 : 1.70	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed
Pressure hPa rack travel mm Tolerance mm	: 500 : 1.70	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance
Pressure hPa rack travel mm	: 500 : 1.70	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 4.0
Pressure hPa rack travel mm Tolerance mm Start interlock	: 500 : 1.70 : + 0.10	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 4.0 - Check tolerance
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm	: 500 : 1.70 : + 0.10	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 4.0
Pressure hPa rack travel mm Tolerance mm Start interlock	: 500 : 1.70 : + 0.10	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 4.0 - Check tolerance
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm	: 500 : 1.70 : + 0.10	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 4.0 - Check tolerance
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check	: 500 : 1.70 : ← 0.10 : > 100 : < 200	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min	: 500 : 1.70 : + 0.10	Tolerance - cm3/1000 strokes : + 1.0 - Check tolerance - cm3/1000s. : + 4.0 - Spreed - Tolerance - cm3/1000 strokes : 4.0 - Check tolerance
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check	: 500 : 1.70 : ← 0.10 : > 100 : < 200 : > 80	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min	: 500 : 1.70 : ← 0.10 : > 100 : < 200	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check	: 500 : 1.70 : ← 0.10 : > 100 : < 200 : > 80	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min Check speed 1/min	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 83.0 Tolerance
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CHA	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220 ARACTERISTICS	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : + 10.0
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CH/	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220 ARACTERISTICS	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min Check speed 1/min FUEL DELIVERY CH/	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220 ARACTERISTICS	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : + 10.0
Pressure hPa rack travel mm Tolerance mm Start interlock Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min FUEL DELIVERY CH/	: 500 : 1.70 : + 0.10 : > 100 : < 200 : > 80 : < 220 ARACTERISTICS : 1000 : 600	Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance

LOW IDLE

Rated speed rpm	:		300
Rack travel in mm	:		5.60
Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes	:		10.0
Tolerance			
cm3/1000 strokes	:	+-	2.5
Check tolerance			-
cm3/1000s.	:	+-	5.0
Spreed			
Tolerance			
cm3/1000 strokes	:		4.5
Check tolerance	•		,,,
cm3/1000s.	:		7.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : F 000 409 105

Injection pump

Pump designation : PES6P120A120RS7350 EP type number : 0 412 726 921

Governor

Governer design. : RQV400...1150PA1376K

Governer no. : F 000 420 502

Cust. part No. : 3933298

Customer—spec. information
Customer : CUMMINS
Motor : 6BTAA
Power KW : 145.G

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 12.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 5.75 Tolerance :+ 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.00 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 167.5	Tolerance mm : +- 0.20 Rated speed rpm : 1500
Tolerance cm3/1000 strokes : + 1.0	guide sleeve : 9.40
Check tolerance cm3/1000s. : + 4.0	- Tolerance mm ; +- 0.20
Spreed	- FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes : 8.0	- Rated speed rpm : 1150 - Aneroid pressure - hPa : 800
Check tolerance	Del. quantity cm3/1000 strokes : 167.5
cm3/1000s. : 12.0	Tolerance : +- 1.0
	- Check tolerance - cm3/1000S. : +- 4.0
Rated speed rpm : 420	- Spreed - Tolerance
Rack travel in mm : 6.10 Tolerance mm : + 0.20	- cm3/1000 strokes : 8.0 - Check tolerance
Del. quantity cm3/1000 strokes : 13.0	- cm3/1000s. : 12.0
Tolerance cm3/1000 strokes : + 3.0 Check tolerance	- CONTROL LEVER
cm3/1000s. : +- 5.0	- CONTROL LEVER - control lever
Tolerance cm3/1000 strokes : 4.0	- position degree : 118.0 - tolerance degree : +- 6.0
Check tolerance cm3/1000s. : 8.0	- RATED SPEED
‡	rack travel mm : 13.00 Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15 Check speed 1/min : +- 20
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00
Rated speed rpm : 1250	Rated speed rpm : 1465 Tolerance 1/min : +- 5
guide sleeve travel mm : 7.10	- Check - speed 1/min : +- 10
Toterance mm : + 0.10	rack travel mm : 0.50
Rated speed rpm : 400 guide sleeve	Tolerance mm : + 0.50 Rated speed rpm : 1550
travel mm : 1.50 Tolerance mm : + 0.10	· ·
Rated speed rpm : 800 guide sleeve	LOW IDLE
travel mma : 4.50	
Rated speed rpm : 550	control lever position degree : 72.0
guide sleeve travel mm : 3.30	tolerance degree : +- 6.0

Grad . /4 0	T
Grad : 46.0 tolerance degree : +- 6.0	Start interlock
Setting point w/out bumper spring	Rated speed rpm : > 100 Rated speed rpm : < 325
Rated speed rpm : 300	+
CRT mm main. :> 8.90	+ Check + speed 1/min :> 80
Testing:	+ Check + speed 1/min : < 335
Rated speed rpm : 420 rack travel mm : 6.10 Tolerance mm : +- 0.20	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 420	Aneroid pressure hPa : 800
TORQUE CONTROL Rated speed row 1150	Rated speed rpm : 800 + Del. quantity + cm3/1000 strokes : 141.0
Rated speed rpm : 1150 rack travel mm : 14.00 Tolerance mm : + 0.05	Tolerance + cm3/1000 strokes : + 3.0
Rated speed rpm : 800	+ Check tolerance + cm3/1000s. : + 6.0
rack travel mm : 12.60 Tolerance mm : +- 0.20	+ Spreed + Tolerance
Rated speed rpm : 1250 rack travel mm : 14.00	+ cm3/1000 strokes : 8.0 + Check tolerance + cm3/1000S. : 12.0
Tolerance and : + 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST	rack travel mm : 14.00 Tolerance mm : + 0.10
SETTING	Aneroid pressure hPa : -
Rated speed rpm : 1150	+ Rated speed rpm : 1150 + Del. quantity
Pressure hPa : 800 Rated speed rpm : 1150	+ cm3/1000 strokes : 80.5 + Tolerance + cm3/1000 strokes : +- 2.0
Pressure hPa : - rack travel mm : 9.75	Check tolerance cm3/1000s. : + 4.0
Tolerance man : + 0.20	
MEASUREMENT	STARTING FUEL DELIVERY
Rated speed rpm : 1150	+ Rated speed rpm : 100
Pressure hPa : 470 rack travel mm : 12.85	+ Rated speed rpm : 100 + rack travel mm : 13.75 + Tolerance mm : + 0.50
Tolerance mm : + 0.30	+ Del. quantity + cm3/1000 strokes : 155.0
Pressure hPa : 250 rack travel mm : 10.85	+ Tolerance + cm3/1000 strokes : + 20.0
Tolerance mm : ← 0.20	+ Check tolerance + cm3/1000S. : + 25.0
	•

Control lever difference

LOW IDLE

Rated speed rpm	:	420	
Rack travel in mon Tolerance mmn Del. quantity	•	6.10 0.20	
cm3/1000 strokes	:	13.0	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	5.0	
Spreed Tolerance			
cm3/1000 strokes	:	4.0	
Check tolerance cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.02.98 : ISO 4113

Combination No. : F 000 409 106

Injection pump

Pump designation : PES6P120A120RS7416

EP type number : 0 412 726 959

Governor

Governer design. : RQV400...1250PA1378K

Governer no. : F 000 420 503

Cust. part No. : 3933297

Customer-spec. information

Customer : CUMMINS Motor

: 68TA-A

Power KW

: 130.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

har

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

A09

x inside diameter : 3.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 6.25

: +- 0.50

Tolerance Check

tolerance °NW

: **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 13.65

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 160.5	Tolerance mma : +- 0.25 Rated speed rpm : 1690
Tolerance cm3/1000 strokes : + 1.0	guide sleeve travel mm : 11.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : ← 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	Rated speed rpm : 1250
Tolerance cm3/1000 strokes : 8.0	Aneroid pressure hPa : 800 Del. quantity
Check tolerance cm3/1000s. : 12.0	cm3/1000 strokes : 160.5 Tolerance
-	+ cm3/1000 strokes : + 1.0 + Check tolerance + cm3/1000s. : + 4.0
Rated speed rpm : 420	Spreed Tolerance
Rack travel in mm: 6.00 Tolerance mm: +- 0.10	cm3/1000 strokes : 8.0 Check tolerance
Del. quantity cm3/1000 strokes : 15.0	cm3/1000s. : 12.0
Tolerance cm3/1000 strokes : +- 3.0 Check tolerance	CONTROL LEVER
cm3/1000s. : + 5.0	+
Spreed Tolerance	<pre>control lever position degree : 117.0</pre>
cm3/1000 strokes : 4.0 Check tolerance	tolerance degree : + 6.0
cm3/1000s. : 8.0	RATED SPEED - rack travel mm : 12.60 - Rated speed rpm : 1325
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : + 15
	rack travel mma : 4.00 Rated speed rpm : 1480
GUIDE SLEEVE TRAVEL	Tolerance 1/min : +- 5
Rated speed rpm : 1329 guide sleeve	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1550
travel mm : 7.83 Tolerance mm : + 0.15	Rated speed rpm : 1550
Rated speed rpm : 400 guide sleeve	
travel mm : 1.44	LOW IDLE
Tolerance mm : + 0.20	‡
Rated speed rpm : 939 guide sleeve	control lever position degree : 71.0
travel mm : 5.18	tolerance degree : + 6.0
	Control lever difference
Rated speed rpm : 640 guide sleeve	+ Grad : 46.0 + tolerance degree : + 6.0
travel mma : 3.56	+

Setting point w/o	out bumper spring	† Charle
Rated speed rpm	: 300	+ Check + speed 1/min :> 80 + Check
CRT mm min.	: > 5.80	speed 1/min : < 290
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 420	TOLE DELIVERY STARROTERISTICS
rack travel mm Tolerance mm	: 6.00	
Tolerance mm	: ← 0.10	Aneroid pressure
Rated speed rpm	: 425	hPa : 800 Rated speed rpm : 800
massa sposa i piii		+ Del. quantity
		Del. quantity cm3/1000 strokes : 131.5
TORQUE CONTROL	4050	+ Tolerance
Rated speed rpm	: 120U • 17 K5	cm3/1000 strokes : + 3.0 + Check tolerance
rack travel mm Tolerance mm	: +- 0.05	+ cm3/1000s. : +- 6.0
		Spreed
Rated speed rpm rack travel mm Tolerance mm	: 800	† Tolerance
rack travel mm	: 11.85	+ cm3/1000 strokes : 8.0
Tolerance mm	: + 0.10	Check tolerance : 12.0
Dated speed are	• 500	+ cm3/1000s. : 12.0
Rated speed rpm rack travel mm	• 11 AN	Ī
Tolerance mm	: + 0.20	rack travel mm : 11.60
		+ Tolerance mm : + 0.20
*		
ANEROID/ALTITUDE		
COMPENSATOR TEST		+ Aneroid pressure + hPa : -
		Rated speed rpm : 1250
SETTING		+ Del. quantity
		+ cm3/1000 strokes : 88.0
Rated speed rpm	: 1250	Tolerance
Pressure hPa	: 800	+ cm3/1000 strokes : +- 1.0
Rated speed rpm	. 1250	+ Check tolerance + cm3/1000s. : + 4.0
Pressure hPa	: 1250	T (III)/10003. : T 4.0
	•	
rack travel mm Tolerance mm	: + 0.20	+
14m a 41 15		+ STARTING FUEL DELIVERY
MEASUREMENT		Cot starting CDT at 1/2 and
Rated speed rpm	: 1250	+ Set starting CRT at K-cam.
nuteu speed this	· ILJU	1
Pressure hPa	: 340	Rated speed rpm : 100
rack travel mm	: 12.70	rack travel mm : 14.10
Tolerance mm	: ← 0.30	+ Tolerance mm : + 0.50
Decreum hos	: 180	+ Del. quantity + cm3/1000 strokes : 155.0
Pressure hPa rack travel mm	· 100 · 10 50	+ CMS/1000 Strokes : 155.0 + Tolerance
Tolerance mm	: + 0.20	- cm3/1000 strokes : +- 20.0
C 100 1001		+ Check tolerance
		+ cm3/1000s. : $+-$ 25.0
Start interlock		†
Dadad ansad ass	. \ 100	†
Rated speed rpm Rated speed rpm	: > 100 • < 280	Ī
vater sheer the	. \ 200	Τ

LOW IDLE

Rated speed rpm	:	420
	-	6.00 0.10
Del. quantity cm3/1000 strokes Tolerance	:	15.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000S. Spreed Tolerance	: +-	5.0
cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.02.98 Test oil : ISO 4113

Combination No. : 0 402 066 715

Injection pump

Pump designation : PES6P110A120RS3397

EP type number : 0 412 016 758

Governor

Governer design. : RSV500...1000P2A689

Governer no. : 0 421 833 611

Cust. part No. : 3930529

Customer—spec. information Customer : CDC Motor : 6CT

Power KW : 166.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.25 Tolerance : \div 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 15.00 Difference ° CS : 1.50

	+
DACKS OFFICE	governor spring
BASIC SETTING	<pre>pre-tension click setting x : 4.00</pre>
Rated speed rpm : 1000	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 12.30 Tolerance mm : + 0.05	Rated speed rpm : 1000
Dol munditu	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 165.5	+ hPa : 1500 + Del. quantity + cm3/1000 strokes : 165.5
Tolerance	Tolerance
cm3/1000 stackes : +- 1.0	cm3/1000 strokes : +- 1.0 - Check tolerance
Check tolerance	+ cm3/1000s. : $+$ 3.0
$cn_3/1000s.$: \leftarrow 3.0	+ Spreed
Spreed	+ Tolerance + cm3/1000 strokes : 8.0
	- Check tolerance
Tolerance cm3/1000 strokes : 8.0	+ cm3/1000s. : 12.0
CIBS/1880 STrokes : 8.0	Ī
Check tolerance	
cm3/1000s. : 12.0	CONTROL LEVER
	control lever
	position degree : 99.0
Rated speed rpm : 500	tolerance degree : +- 4.0
Rack travel in mm: 5.20	T RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 11.20
Del. quantity cm3/1000 strokes : 32.5	Rated speed rpm : 1060
Tolerance	† Tolerance 1/min : ← 5
cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1155
cm3/1000s. : + 4.5	+ Tolerance 1/min : + 5
Spreed Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 4.0	+ Tolerance ram : +- 0.55
Check tolerance	+ Rated speed rpm: : 1275
cm3/1000s. : 6.5	t mark travel on / 00
	+ rack travel mm : 4.00 + Rated speed rpm : 1155
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : +- 15
WITH GOVERNOR	+
	†
	I
GUIDE SLEEVE POSITION	+ LOW IDLE
	†
control lever	t control lever
position degree : - 3	position degree : 82.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Protestance in the Control of the Co	Control lover differences
Rack travel in mm : 0.50 Tolerance mm : + 0.20	+ Control lever difference + Grad : 17.0
1000 G 100 G	, 0.44

tolerance degree	: ← 6.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm	: 500 : 4.70
Rated speed rpm	: 100
CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 5.20 : + 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.45 : ← 0.20
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.00 : +- 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1500
Rated speed rpm Pressure hPa	: 500
rack travel mm Tolerance mm	: 12.00 : + 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 1050 : 12.90 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 850 : 12.30 : ← 0.20

FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	: 1500
Rated speed rpm Del. quantity cm3/1000 strokes	: 750 : 189.0
Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	: + 5.0
rack travel mm Tolerance mm	: 13.00 : + 0.20
Aneroid pressure hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	
Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	: + 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 100 : 21.00 : + 0.50
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 100 : 21.00 : + 0.50
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 100 : 21.00 : + 0.50 : 157.0
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 21.00 : + 0.50 : 157.0 : + 20.0
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 21.00 : + 0.50 : 157.0 : + 20.0 : + 25.0
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm	: 100 : 21.00 : + 0.50 : 157.0 : + 20.0 : + 25.0
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm	: 100 : 21.00 : + 0.50 : 157.0 : + 20.0 : + 25.0
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: 100 : 21.00 : + 0.50 : 157.0 : + 20.0 : + 25.0 : 500 : 5.20 : + 0.10
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. LOW IDLE Rated speed rpm Rack travel in mm Tolerance mm Del. quantity	: 100 : 21.00 : + 0.50 : 157.0 : + 20.0 : + 25.0 : 500 : 5.20 : + 0.10 : 32.5

Tolerance cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 6.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.02.98 Test oil : ISO 4113

Combination No. : 0 402 076 817

Injection pump

Pump designation : PES6P120A720RS3367 EP type number : 0 412 026 788

Governor

Governer design. : RSV525...1000P2A640

: -1

Governer no. : 0 421 833 604

Cust. part No. : RE71286

Customer—spec. information Customer : DEERE Motor : 6081HTE

Motor : 6081HT001 Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : ← 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 14.00 Difference * CS : 2.50

BASIC SETTING

Rated speed rpm : 1000

	+
Rack travel in mm : 13.20 Tolerance mm : + 0.05	- + +
Del. quantity cm3/1000 strokes : 179.5	- ‡
Tolerance cm3/1000 strokes : + 1.0	- [
Check tolerance cm3/1000s. : + 3.0	- [
Spreed	- +
Tolerance cm3/1000 strokes : 4.0	
Check tolerance : 6.5	
	-
Rated speed rpm : 525	Ŧ
Rack travel in mm : 5.10 Tolerance mm : + 0.10 Del. quantity	Ī
cm3/1000 strokes : 26.5	7
Tolerance cm3/1000 strokes : +- 2.0	‡
Check tolerance cm3/1000s. : +- 4.5 Spreed	‡
Tolerance cm3/1000 strokes : 6.0	<u></u>
Check tolerance cm3/1000s. : 8.0	Ì
	7
(B) SETTING OF INJECTION PUMP	‡
WITH GOVERNOR	+
	1
GUIDE SLEEVE POSITION	1
combined devices	Ŧ
control lever position degree : - 3 Rated speed rpm : 800	‡
Rack travel in mm : 0.50 Tolerance mm : + 0.20	‡
governor spring pre-tension	† +
click setting $x : 2.50$	+

FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa	: 1000 : 1400
Del. quantity cm3/1000 strokes Tolerance	: 179.5
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s. Spreed	: ← 3.0
Tolerance cm3/1000 strokes Check tolerance	: 4.0
cm3/1000s.	: 6.5
CONTROL LEVER	
control lever	
position degree tolerance degree	: 87.5 : + 4.0
RATED SPEED rack travel mm Rated speed rpm	: 12.20 : 1065
Tolerance 1/min	: + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1115 : + 5
rack travel mm Tolerance mm	: 0.85 : + 0.55
Rated speed rpm	: 1200
rack travel mm Rated speed rpm	: 4.00 : 1115
Tolerance 1/min	: +- 15
LOW IDLE	
control lever position degree tolerance degree	: 70.0 : + 4.0
Setting point w/o	ut bumper spring

Rated speed rpm : rack travel mm : Tolerance mm : +-

: 525 : 4.60 : + 0.10 Rated speed rom : 100 Check tolerance cm3/1000s. : + 4.0 CRT am min. : > 19.00 Testing: Aneroid pressure hPa Rated speed rpm 525 Rated speed rpm : 500 rack travel mm : 5.10 Del. quantity cm3/1000 strokes : 165.0 : + 0.10Toterance mm Tolerance cm3/1000 strokes : +-2.0 TORQUE CONTROL Check tolerance Rated speed rom : 1000 cm3/1000s. 4.0 rack travel mm 13.20 Tolerance ma : + 0.05: 700 : 14.00 700 Rated speed rpm STARTING FUEL DELIVERY rack travel nm : Tolerance ma Rated speed rpm : + 0.10100 rack travel mm : 20.50 Tolerance mm : **←** 0.50 ANEROID/ALTITUDE Del. quantity cm3/1000 strokes : 105.0 COMPENSATOR TEST Tolerance cm3/1000 strokes : + 20.0SETTING Check tolerance cm3/1000s. : +- 25.0 Rated speed rpm : 500 Pressure hPa 1400 Rated speed rpm 500 Pressure hPa LOW IDLE rack travel mm 12.25 Tolerance mm : ← 0.10 Rated speed rpm : 525 MEASUREMENT Rack travel in mm: 5.10 Tolerance mm : \leftarrow 0.10 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 26.5 Pressure hPa 975 Tolerance 13.40 cm3/1000 strokes : +rack travel mm : **←** 0.20 Check tolerance Tolerance mm cm3/1000s. 4.5 Pressure hPa 830 Spreed rack travel mm 12.70 Tolerance : **←** 0.05 cm3/1000 strokes : Tolerance mm 6.0 Check tolerance cm3/1000s. 8.0 : FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1400 End of test specification sheet hPa Rated speed rom 700 Del. quantity cm3/1000 strokes : 199.5 Tolerance

cm3/1000 strokes : + 2.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.05.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 736 864

Injection pump

Pump designation : PES6P120A120RS7349 EP type number : 0 412 726 920

Governor

Governer design. : RQV400...1150PA1169K Governer no. : 0 421 815 435

Cust. part No. : 3928150

Customer-spec. information Customer : CDC Motor : 68TA-A Power kW : 171.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 har Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 12.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

Start of delivery blocking

*NW after s.o.d. : 6.25 Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.85 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 194.5	Tolerance mm : + 0.25
- (Rated speed rpm : 1700
Tolerance cm3/1000 strokes		guide sleeve
cm3/ (UUU strokes	: + 1.0	travel mm : 11.50
Check tolerance		Tolerance mm : + 0.50
cm3/1000s.	• + 40	
CHD/ 10005.]	GUIDE SLEEVE POSITION
Spreed		COLDE SEEEAE LOSILION
Tolerance		control lever
cm3/1000 strokes	: 8.0	position degree : MAx
		Rated speed rpm : 1390
Check tolerance		•
cm3/1000s.	: 12.0	Rack travel in mm: 13.40
	<u> </u>	
	·· ··	
	+	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 420	
Darla Americal de es		- Rated speed rpm : 1150
Rack travel in mm		Aneroid pressure
Tolerance mm	: +- 0.20	hPa : 1200
Del. quantity cm3/1000 strokes	. 14.5	Del. quantity
Tolerance	: 10.5	- cm3/1000 strokes : 194.5 - Tolerance
cm3/1000 strokes		- rocerance - cm3/1000 strokes : +- 1.0
Check tolerance	3.0	Check tolerance
cm3/1000s.	·+ 50	- cm3/1000s. : +- 4.0
Spreed]	- Spreed
Tolerance		- Tolerance
cm3/1000 strokes	: 4.0	cm3/1000 strokes : 8.0
Check tolerance		Check tolerance
cm3/1000s.	: 8.0	- cm3/1009s. : 12.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
		- control lever
GUIDE SLEEVE TRAV	EL +	position degree : 120.0
	+	tolerance degree : + 6.0
Rated speed rpm	: 1327	
guide steeve	- -	- RATED SPEED
travel mm	: 7.76	rack travel mm : 13.40
Tolerance mm	: ← 0.15	Rated speed rpm : 1310
B 4 = 1 = 0 = 1 = 0 = 0	1,00	Tolerance 1/min : +- 15
Rated speed rpm	: 400	
guide sleeve travel mm	: 1.39	rack travel mm : 4.00
	: + 0.20	Rated speed rpm : 1485 Tolerance 1/min : +- 5
Tolerance mm	: - 0.20	Tolerance 1/min : + 5
Rated speed rpm	: 869	rack travel mm : 0.50
guide sleeve	. 007	Tolerance mm : +- 0.50
travel mm	: 4.79	Rated speed rpm : 1550
Tolerance mm	: + 0.25	L
TOTAL WILL INST]	<u>-</u>
Rated speed rpm guide sleeve	: 540	
travel mm	: 3.27	- LOW IDLE
たいひょたい 1221	• 3.51	- LOH IDEE

control lever position degree tolerance degree	: 73.0 : + 6.0
Control lever dif Grad tolerance degree	: 47.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 300
CRT mmm min.	: > 9.00
Testing:	
Rated speed rpm rack travel man Tolerance man	: 420 : 5.90 : + 0.20
Rated speed rpm	: 425
TORQUE CONTROL Rated speed rpm rack travel man Tolerance man	: 1150 : 14.85 : + 0.05
Rated speed rpm rack travel mam Tolerance mm	: 800 : 14.00 : + 0.20
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel man Tolerance man	: 900 : 14.20 : + 0.20
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.40 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 1150 : 1200
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1150 : − : 10.30 : ← 0.20

Rated speed rpm	: 1150	
Pressure hPa rack travel mm Tolerance mm	: 645 : 13.50 : ← 0.30	
Pressure hPa rack travel mm Tolerance mm	: 355 : 11.35 : + 0.20	
Start interlock		
Rated speed rpm Rated speed rpm	: > 100 : < 315	
Check speed 1/min Check	: > 80	
speed 1/min	: < 325	
FUEL DELIVERY CHA	RACTERISTICS	
rack travel mm Tolerance mm	: 14.50 : + 0.10	
Aneroid pressure hPa Rated speed rpm	: 1200 : 900	
hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 900	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 900 : 182.0	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 900 : 182.0	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 900 : 182.0 : ← 3.0	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 900 : 182.0 : ← 3.0 : ← 6.0	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 900 : 182.0 : ← 3.0 : ← 6.0 : 8.0 : 12.0	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 900 : 182.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 17.0	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 900 : 182.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 150 : 95.5	
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 900 : 182.0 : + 3.0 : + 6.0 : 8.0 : 12.0 : 17.0	

MEASUREMENT

STARTING FUEL DELIVERY

Rated speed rpm 100 12.50 rack travel ma : ← 0.50 Tolerance ma Del. quantity cm3/1000 strokes : 155.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : **→** 25.0

LOW IDLE

Rated speed rpm 420

Rack travel in mm : 5.90 0.20 Tolerance man Del. quantity cm3/1000 strokes : 16.5 Tolerance cm3/1000 strokes : +-3.0

Check tolerance cm3/1000s. 5.0

Spreed Tolerance

4.0 cm3/1000 strokes :

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.02.98 : ISO 4113

Combination No. : 0 402 746 617

Injection pump

Pump designation : PES6P120A720RS7423 EP type number : 0 412 726 963

6overnor

Governer design. : RQV325...975PA909

: -12K

Governer no. : 0 421 815 531

Cust. part No. : 313GC5229-P10

Customer-spec. information Customer : MACK Motor : EN7300A

Power KW

: 223.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.8

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test Lines : 1 680 750 008

Outside diameter :

x inside diameter :

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance no :+1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +~ 0.50

Check

tolerance NW : +- 0.75

Start of delivery blocking

Tolerance : + 0.50

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

975

Rack travel in mm: 12.55

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 202.0

Tolerance cm3/1000 strokes : + 1.0			+	Rated speed rpm	: 1430
Tolerance mm			+	guide sleeve	
Tolerance mm	cm3/1000 strokes	: 1.0	+	travel mm	: 13.50
Spreed Full Load Delivery AT Full Load Stop				Tolerance mm	: ← 0.50
FULL LOAD DELIVERY AT FULL LOAD STOP			+		
Rated speed rpm : 975 Aneroid pressure 1200 Del. quantity 202.0 Tolerance cm3/1000 strokes : 5.0 Del. quantity 202.0 Tolerance cm3/1000 strokes : 202.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000 strokes : + 4.0 Spreed Tolerance mm : + 0.10 Check tolerance cm3/1000 strokes : 44.0 Tolerance mm : + 0.10 Check tolerance cm3/1000 strokes : 44.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 5.0 Control lever control lever cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 5.0 Control lever c	cm3/1000s.	: ← 4.0	+		
Tolerance cm3/1000 strokes : 5.0			+	FULL LOAD DELIVER	Y AT FULL LOAD STOP
Tolerance cm3/1000 strokes : 5.0	Spreed		+		
Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 Rated speed rpm : 325 Rack travel in mm : 5.30 Tolerance mm : + 0.10 Del. quantity Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance mm3/1000s trokes : 5.0 Tolerance mm3/1000 strokes : 5.0 Tolerance mm3/1000 strokes : 5.0 Check tolerance cm3/1000s strokes : 44.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000s. : + 5.0 Spreed Tolerance degree : 106.0 Check tolerance cm3/1000s. : + 4.0 CONTROL LEVER CONTROL L	•				: 975
Del. quantity			†		
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Rated speed rpm : 390 position degree : 61.5 guide sleeve tolerance degree : + 4.0 travel mm : 2.30	INCERCATION (ICE (IES)	ري. ت	Ī	control lover	
guide sleeve + tolerance degree : + 4.0 travel nm : 2.30	Dated and and	• 300			. 41 5
travel mm : 2.30 +		. 370			
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Toterance min			Ţ	Satting point 11/-	it himsen carries
T	TO CELOUICE IMB	. — U.	T	serring both w/o	ar namber shritis
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Rated speed rpm	: 275	<u>.</u>
CRT mm min.	: > 6.50	+ Check + speed 1/min : > 80
		+ Check
Testing:		speed 1/min : < 285
Rated speed rpm	: 325	
rack travel mm	: 5.30	→ FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel man Tolerance man	: + 0.10	†
Rated speed rpm	: 400	Aneroid pressure
		→ hPa : 1200
		Rated speed rpm : 600
TORQUE CONTROL		+ Del. quantity
Rated speed rpm	: 975	- cm3/1000 strokes : 221.5
rack travel mm Tolerance mm	: 12.55	+ Tolerance
Tolerance mm	: + 0.05	+ cm3/1000 strokes : $+$ 3.0
		+ Check tolerance
Rated speed rom	: 600	+ cm3/1000s. : + 6.0
rack travel mm	12.00	Spreed
Rated speed rpm rack travel mm Tolerance mm	: + 0.10	+ Tolerance
· ~ (4)	J. 10	+ cm3/1000 strokes : 8.0
Rated speed rom	: 500	Check tolerance
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Tolerance mm	· +- 0.20	T (m5/10005 12.0
Office ma	. ' 0.20	<u> </u>
		nack travel me 11 50
ANEROID/ALTITUDE		
		† Tolerance mm : ← 0.20
COMPENSATOR TEST		†
		+ Aneroid pressure
		+ hPa : -
SETTING		
		Rated speed rpm : 400
	: 975	† Del. quantity
Rated speed rpm Pressure hPa	: 975 : 1200	+ Del. quantity + cm3/1000 strokes : 148.0
Rated speed rpm Pressure hPa	: 975 : 1200 : 12.55	Del. quantity cm3/1000 strokes : 148.0 Tolerance
	: 975 : 1200 : 12.55 : + 0.05	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : +- 2.0
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Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80
Rated speed rpm Pressure hPa rack travel man Tolerance mm Rated speed rpm Pressure hPa rack travel man Tolerance mm MEASUREMENT Rated speed rpm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 975 : 460 : 11.15	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity
Rated speed rpm Pressure hPa rack travel man Tolerance mm Rated speed rpm Pressure hPa rack travel man Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel man	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 975 : 460 : 11.15	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0
Rated speed rpm Pressure hPa rack travel man Tolerance mm Rated speed rpm Pressure hPa rack travel man Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel man	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235 : 9.25	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235 : 9.25	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235 : 9.25	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235 : 9.25	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235 : 9.25	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 30.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Start interlock	: 12.55 : + 0.05 : 975 : - 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235 : 9.25 : + 0.05	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm MEASUREMENT Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 12.55 : + 0.05 : 975 : - : 8.10 : + 0.20 : 975 : 460 : 11.15 : + 0.20 : 235 : 9.25 : + 0.05	Del. quantity cm3/1000 strokes : 148.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 10.80 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 30.0

Rack travel in mma	: _	5.30 0.10
Del. quantity cm3/1000 strokes	• '	44.0
Tolerance	•	
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s. Spreed	: +-	5.0
Tolerance cm3/1000 strokes	:	8.0
Check tolerance cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 618

Injection pump

Pump designation : PES6P120A720RS7423

EP type number : 0 412 726 963

Governor

Governer design. : RQV325...875PA909

: -13k

: 0 421 815 532 Governer no.

Cust. part No. : 313GC5229-P6

Customer spec. information Customer : MACK : EMN7300 Motor Power KW : 223.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde assembly : 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 008 Outside diameter :

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : + G.10

Rack travel in mm : 10.50 Tolerance m_0 : \leftarrow 1.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 875

Rack travel in mm: 12.85 Tolerance mm: $\leftarrow 0.05$

Del. quantity cm3/1000 strokes : 212.5	Tolerance mm : +- 0.25
Tolerance	Rated speed rpm : 1350 guide sleeve
cm3/1000 strokes : +- 1.0	travel mma : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : + 4.0	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance -	Rated speed rpm : 875 Aneroid pressure
cm3/1000 strokes : 5.0	hPa : 1200 Del. quantity
Check tolerance	- cm3/1000 strokes : 212.5
cm3/1000s. : 9.0	Tolerance : + 1.0
	Check tolerance
Rated speed rpm : 325	- cm3/1000s. : +- 4.0 - Spreed
· · · · · ·	Tolerance
Rack travel in mm: 5.00	cm3/1000 strokes : 5.0
Tolerance mm : + 0.10	- Check tolerance - cm3/10008. : 9.0
cm3/1000 strokes : 44.0	- cm3/10003. : 9.0
Tolerance	
cm3/1000 strokes : +- 3.0	
Check tolerance - cm3/1000s. : ← 5.0 -	CONTROL LEVER
Spreed	controù lever
Tolerance -	position degree : 109.5
cm3/1000 strokes : 8.0	tolerance degree : +- 4.0
Check tolerance - cm3/1000s. : 12.0 -	RATED SPEED
. 12.0	rack travel mm : 11.85
· .	- Rated speed rpm : 920
(B) SETTING OF INJECTION PUMP	Folerance 1/min: +- 5
WITH GOVERNOR	- Check - speed 1/min : +- 10
	Speed William 1. 10
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00
Rated speed rpm : 931	- Rated speed rpm : 1075 - Tolerance 1/min : +- 15
Rated speed rpm : 931 - guide sleeve -	F Tolerance 1/min : +- 15 F Check
travel mm : 8.41	speed 1/min : + 20
Tolerance mm : + 0.15	
Rated speed rpm : 325	- rack travel mm : 0.50 - Tolerance mm : + 0.50
guide sleeve	Rated speed rpm : 1200
travel mm : 1.79	
Tolerance mm : + 0.20 -	-
Rated speed rpm : 754	
guide sleeve	LOW IDLE
travel mm : 6.98	-
Tolerance mm : + 0.25	control lover
Rated speed rpm : 520	- control lever - position degree : 62.5
guide sleeve	tolerance degree : +- 4.0
travel mm : 4.05	· -

Setting point w/c	out bumper spring	†
Rated speed rpm	: 225	Check speed 1/min :> 80 Check
CRT mm min.	: > 6.50	speed 1/min : < 285
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm	: 325 : 5.00	TOEL DELIVER! CHARACTERISTICS
Tolerance mm	: ← 0.10	+ Aneroid pressure
Rated speed rpm		+ hPa : 1200
nated speed rpm	• 463	Rated speed rpm : 510 Del. quantity
		- + cm3/1000 strokes : 296.0
TORQUE CONTROL	. 075	† Tolerance
Rated speed rpm rack travel mm		+ cm3/1000 strokes : +- 3.0 + Check tolerance
Tolerance mm		+ cm3/1000s. : +- 6.0
		Spreed
Rated speed rpm	: 510	+ Tolerance
rack travel mm	: 14.05	+ cm3/1000 strokes : 8.0
Tolerance mm	: ← 0.10	+ Check tolerance + cm3/1000s. : 12.0
Rated speed rom	: 400	+ cm3/1000s. : 12.0
rack travel mm	: 13.50	
Tolerance mm	: + 0.20	rack travel mm : 13.50
		Tolerance mm : + 0.20
ANEROID/ALTITUDE		⁻ I
COMPENSATOR TEST		Aneroid pressure
		+ hPa : -
		Rated speed rpm : 400
SETTING		+ Del. quantity
Rated speed rpm	: 510	cm3/1000 strokes : 159.0 Tolerance
Pressure hPa	: 1200	+ cm3/1000 strokes : +- 2.0
		+ Check tolerance
Rated speed rpm		+ cm3/1000s. : + 4.0
Pressure hPa	: ···	†
rack travel mm Tolerance mm	: 8.40 : +- 0.20	I
		STARTING FUEL DELIVERY
MEASUREMENT		Rated speed rpm : 100
Rated speed rpm	: 510	rack travel mm : 11.30
		→ Tolerance mm : ← 1.00
Pressure hPa	: 785	+ Del. quantity
rack travel mm Tolerance mm	: 13.30 : +- 0.20	+ cm3/1000 strokes : 230.0 + Tolerance
I U LUI CAI PLU IMP	י טינט	+ cm3/1000 strokes : + 20.0
Pressure hPa	: 370	+ Check tolerance
rack travel mm	: 9.90	+ cm3/1000s. : $+$ 25.0
Tolerance mm	: +- 0.05	‡
Start interlock		-
		+ LOW IDLE
Rated speed rpm	: > 100	†
Rated speed rpm	: < 275	+ Rated speed rpm : 325

Rack travel in mma Tolerance mma	: : +-	5.00 0.10
Del. quantity cm3/1000 strokes	:	44.0
Tolerance cm3/1000 strokes	: ←	3.0
Check tolerance cm3/1000s. Spreed	: +	5.0
Tolerance cm3/1000 strokes	:	8.0
Check tolerance cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 10.02.98

: 16.02.98

Combination No. : 0 402 746 619

Injection pump

Pump designation : PES6P120A720RS7423

EP type number : 0 412 726 963

Governor

Governer design. : RQV325...900PA909

: -14K

Governer no. : 0 421 815 533

Cust. part No. : 3136C5229-P4

Customer-spec. information Customer : MACK : EN7400 Motor Power KW : 298.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter :

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery blocking

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 16.00 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 277.5	+ Tolerance mm : + 0.25
Tolerance	Rated speed rpm : 1350 guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : +- 4.0	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	Rated speed rpm : 900 Aneroid pressure
cm3/1000 strokes : 5.0	hPa : 1500 Del. quantity
Check tolerance cm3/1000s. : 9.0	cm3/1000 strokes : 277.5
	cm3/1000 strokes : + 1.0 Check tolerance
	+ cm3/1000s. : + 4.0
Rated speed rpm : 325	- Spreed - Tolerance
Rack travel in mm : 5.10	- cm3/1000 strokes : 5.0
Tolerance mm : + 0.10	+ Check tolerance
Del. quantity	+ cm3/1000s. : 9.0
cm3/1000 strokes : 44.0	†
Tolerance $cm3/1000$ strokes : \leftarrow 3.0	İ
Check tolerance	CONTROL LEVER
cm3/1000s. : - 5.0	1
Spreed	- control lever
Tolerance	+ position degree : 115.0
cm3/1000 strokes : 8.0 Check tolerance	tolerance degree : + 4.0
cm3/1000s. : 12.0	I RATED SPEED
	rack travel mm : 15.00
4- \ 4	Rated speed rpm : 945
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : + 5
WITH GOVERNOR	+ Check + speed 1/min : +- 10
	- opeca mann
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00
Rated speed rpm : 957	+ Rated speed rpm : 1140
Rated speed rpm : 957 guide sleeve	+ Tolerance 1/min : + 15 + Check
travel mm : 8.66	speed 1/min : + 20
Tolerance mm : ← 0.15	} '
Dated aread was a 725	rack travel mm : 0.50
Rated speed rpm : 325 guide sleeve	+ Tolerance mm : + 0.50 + Rated speed rpm : 1200
travel mm : 1.79	rated speed rpm : 1200
Tolerance mm : + 0.20	1
	+
Rated speed rpm : 763	LOU TOLE
guide sleeve travel mm : 7.04	† LOW IDLE
Tolerance mm : +- 0.25	1
	control lever
Rated speed rpm : 520	position degree : 62.0
guide sleeve	tolerance degree : + 4.0
travel mm : 4.05	†

Setting point w/o	out bumper spring	†	
Rated speed rpm	: 225	+ Check + speed 1/min + Check	: > 80
CRT mma min.	: > 7.00	speed 1/min	: < 285
Testing:		FUEL DELIVERY CH	ADACTEDISTICS
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 5.10 : + 0.10	Aneroid pressure hPa Rated speed rpm Del. quantity	: 1500 : 625
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 16.00 : + 0.05	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: + 3.0
Rated speed rpm rack travel mmn Tolerance mmn	: 15.60 : ← 0.10	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Rated speed rpm rack travel mma Tolerance mma	: 13.90 : + 0.20	rack travel mm Tolerance mm	: 13.90 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm Pressure hPa Rated spead rpm Pressure hPa rack travel mm Tolerance mm	: 1500 : 900 : - : 8.50	Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 400 : 159.0 : + 2.0 : + 4.0
MEASUREMENT Rated speed rpm	: 900	Rated speed rpm rack travel mm Tolerance mm	
Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 14.40 : + 0.20	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 215.0 : + 20.0
rack travel mma Tolerance mma Start interlock	: 10.35	cm3/1000s.	
Rated speed rpm Rated speed rpm	: > 100 : < 275	LOW IDLE Rated speed rpm	: 325

B06

Rack travel in man	:		5.10
Tolerance mm	:	+-	0.10
Del. quantity			
cm3/1000 strokes	:		44.0
Tolerance			_
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000s.	:	+-	5.0
Spreed			
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000s.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.02.98 : ISO 4113

Combination No. : 0 402 746 620

Injection pump

Pump designation : PES6P120A720RS7423

EP type number : 0 412 726 963

Governor

Governer design. : RQV325...900PA909

: -15K

Governer no.

: 0 421 815 534

Cust. part No. : 3136C5229-P2

Customer-spec. information

Customer

: MACK

Motor

: EN7350

Power KW

: 261.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temo. °C

40

Tolerance °C

Overflow valve : 2 413 319 008

Inlet press. bar :

2.8

Tolerance bar : \leftarrow 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

2.0

x Length mm :

600

RFMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : ← 1.0

2.80

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance am : + 1.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm :

900

Rack travel in mm: 14.15

Tolerance m_0 : $\leftarrow 0.05$

Del. quantity

cm3/1000 strokes : 234.5

	+ Rated speed rpm : 1100
Tolerance	guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 10.50
	Tolerance mm : + 0.20
Check tolerance	+
cm3/1000s. : +- 4.0	Rated speed rpm : 1350
	guide sleeve
Spreed	+ travel mm : 13.50
Tolomono	Tolerance mm : + 0.50
Tolerance cm3/1000 strokes : 5.0	<u> </u>
ciro/ loud strukes : 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	TOLL COND DELIVERY AT FOLE COND STOP
cm3/1000s. : 9.0	Rated speed rpm : 900
	Aneroid pressure
	├ hPa : 1200
<u> </u>	+ Del. quantity
Rated speed rpm : 325	cm3/1000 strokes : 234.5
Dool Amount in my 5 00	Tolerance
Rack travel in mm: 5.00 Tolerance mm: :+ 0.10	cm3/1000 strokes : + 1.0
Del. quantity	+ Check tolerance + cm3/1000s. : + 4.0
cm3/1000 strokes : 44.0	Spreed : + 4.0
Tolerance	Tolerance
cm3/1000 strokes : +- 3.0	- cm3/1000 strokes : 5.0
Check tolerance	Check tolerance
$cm3/1000$ s. : \leftarrow 5.0	+ cm3/1000s. : 9.0
Spreed **	†
Tolerance	†
cm3/1000 strokes : 8.0	0017001 15750
Check tolerance cm3/1000s. : 12.0	CONTROL LEVER
CHD/ (UUUS. : 12.0	control lever
	position degree : 114.0
(B) SETTING OF INJECTION PUMP	tolerance degree : + 4.0
WITH GOVERNOR	1
	RATED SPEED
	rack travel mm : 13.15
GUIDE SLEEVE TRAVEL	+ Rated speed rpm : 945
Data I amount on OOO	Tolerance 1/min : + 5
Rated speed rpm : 900	+ Check
guide sleeve travel mm : 8.40	+ speed 1/min : + 10
travel mm : 8.40 Tolerance mm : + 0.10	rack travel mm : 4.00
TOTAL MEN	Rated speed rpm : 1115
Rated speed rpm : 325	Tolerance 1/min : +- 15
guide sleeve	Check
travel mm : 1.30	+ speed 1/min : +- 20
Tolerance mm : + 0.10	+
	rack travel mm : 0.50
Rated speed rpm : 650	Tolerance mm : + 0.50
guide steeve	Rated speed rpm : 1200
travel ma : 5.70 Tolerance mm : + 0.20	I
TOLET CHILD IN THE U. CU	I
Rated speed rpm : 450	
guide sleeve	LOW IDLE
travel mm : 3.00	+
Tolerance mm : +- 0.20	†
	+

control lever position degree tolerance degree	: 63.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 225
CRT mm min.	: > 7.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 5.00 : + 0.10
Rated speed rpm	: 425
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 900 : 14.15 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.70 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900 : 1200 : 14.15 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900 : - : 8.40 : + 0.20
MEASUREMENT	
Rated speed rpm	: 900
Pressure hPa rack travel mm Tolerance mm	: 820 : 13.20 : + 0.20
Pressure hPa rack travel mm	: 380 : 9.85

Tolerance mm	: + 0.05	
Start interlock		
Rated speed rpm	: > 100	
Rated speed rpm	: > 100 : < 275	
Check		
speed 1/min	: > 80	
Check		
speed 1/min	: < 285	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure	4206	
hPa Rated speed rpm	: 1200 : 625	
Del. quantity	i 023	
cm3/1000 strokes	: 267.0	
Tolerance		
cm3/1000 strokes	: + 3.0	
Check tolerance		
cm3/1000s.	: +- 6.0	
Spreed Tolerance		
cm3/1000 strokes	: 3.0	
Check tolerance		
cm3/1000s.	: 12.0	
rack travel mm Tolerance mm	: 12.0 : 12.70 : + 0.20	
rack travel mm Tolerance mm	: 12.70	
rack travel mm Tolerance mm Aneroid pressure	: 12.70 : + 0.20	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm	: 12.70	
rack travel mm Tolerance mm Aneroid pressure	: 12.70 : + 0.20	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 12.70 : + 0.20 : - : 400 : 155.5	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 12.70 : + 0.20 : - : 400 : 155.5	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 12.70 : + 0.20 :	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 12.70 : + 0.20 : + 400 : 155.5 : + 2.0 : + 4.0	***************************************
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm	: 12.70 : + 0.20 : + 0.20 : 400 : 155.5 : + 2.0 : + 4.0	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm	: 12.70 : + 0.20 : + 0.20 : - : 400 : 155.5 : + 2.0 : + 4.0 IVERY : 100 : 10.70	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm	: 12.70 : + 0.20 : + 0.20 : 400 : 155.5 : + 2.0 : + 4.0	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 12.70 : + 0.20 : + 0.20 : 400 : 155.5 : + 2.0 : + 4.0 : 10.70 : + 1.00	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 12.70 : + 0.20 : + 0.20 : 400 : 155.5 : + 2.0 : + 4.0 IVERY : 100 : 10.70 : + 1.00 : 200.0	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 12.70 : + 0.20 : + 0.20 : 400 : 155.5 : + 2.0 : + 4.0 IVERY : 100 : 10.70 : + 1.00 : 200.0	
rack travel mm Tolerance mm Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 12.70 : + 0.20 : + 0.20 : 400 : 155.5 : + 2.0 : + 4.0 IVERY : 100 : 10.70 : + 1.00 : 200.0	-

LOW IDLE

Rated speed rpa : 325 Rack travel in mm: 5.00 Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 44.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oîl : ISO 4113

Combination No. : 0 402 746 621

Injection pump

Pump designation : PES6P12OA72ORS7424 EP type number : 0 412 726 964

Governor

Governer design. : RQV325...875PA944

: -24K

Governer no. : 0 421 815 535

Cust. part No. : 313605228-P14

Customer—spec. information Customer : MACK Motor : EM7-300 Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 12.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 875

Rack travel in mm : 14.10 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 312.0	+ Tolerance mm : +- 0.25 + Rated speed rpm : 1370
Tolerance cm3/1000 strokes : + 1.0	+ Rated speed rpm : 1370 + guide sleeve + travel mm : 13.50
Check tolerance	Tolerance mm : + 0.50
cm3/1000s. : + 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	+ Rated speed rpm : 875
Tolerance cm3/1000 strokes : 5.0	Aneroid pressure hPa : 1200 Del. quantity
Check tolerance cm3/1000s. : 9.0	cm3/1000 strokes : 312.0
	- cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rom : 600	- cm3/1000s. : +- 4.0 - Spreed
Rack travel in mm : 4.20	+ Tolerance + cm3/1000 strokes : 5.0
Tolerance man : + 0.19 Del. quantity	+ Check tolerance + cm3/1000s. : 9.0
cm3/1000 strokes : 32.0	+ cm3/1000s. : 9.0
Tolerance cm3/1000 strokes : + 3.0	†
Check tolerance	CONTROL LEVER
cm3/1000s. : +- 5.0 Spreed	+ control lever
Tolerance	+ position degree : 103.0
cm3/1000 strokes : 8.0 Check tolerance	tolerance degree : + 4.0
cm3/1600s. : 12.0	T RATED SPEED
	+ rack travel mm : 13.00 + Rated speed rpm : 930
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : + 5
WITH GOVERNOR	+ Check + speed 1/min : + 10
GUIDE SLEEVE TRAVEL	+ rack travel mm : 4.00
Rated speed rpm : 939	Rated speed rpm : 1115 Tolerance 1/min : + 15
guide el esve	+ Check
travel mm : 7.5% Tolerance mm : + 0.15	speed 1/min : + 20
	rack travel mm : 0.50
Rated speed rpm : 340 guide sleeve	+ Tolerance mm : +- 0.50 + Rated speed rpm : 1210
travel mm : 1.92	T Mateu Speed 1 pm . 1210
Tolerance m : \leftarrow 0.20	<u>†</u>
Rated speed rpm : 726	+
guide sleeve travel mm : 5.63	LOW IDLE
Tolerance ram : + 0.25	+
Rated speed rpm : 510	<pre>control lever position degree : 65.0</pre>
guide sleeve	+ tolerance degree : + 4.0
travel mm : 3.81	+

Setting point w/out bumper spring

Rated	speed	COM	<u>.</u>	275
rateu	SUCCU			613

CRT	AM	min.	: >	6.06
VIII	CHEN.	TW		0.00

Testing:

Rated speed rpm	:	600
rack travel mm	:	4.20
Tolerance mm	: +	- 0.10

Rated speed rpm : 425

TORQUE CONTROL		
Rated speed rpm	:	875
rack travel mm	:	14.10
Tolerance mm	: +	- 0.05

Rated speed rpm	:	510
rack travel mm	:	14.85
Tolerance and	: +	- 0.10

Rated speed rpm	:	625
rack travel mm	:	14.70
Tolerance mm	: +	- 0.20

Rated speed rpm	:	400
rack travel mm	:	14.25
Tolerance mm	: +	- 0.20

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	510
Pressure hPa	:	1200

Rated speed rpm	:	510
Pressure hPa	:	-
rack travel mm	:	9.20
Tolerance mm	: +	- 0.20

MEASUREMENT

Rated	speed	rpm	:	510
-------	-------	-----	---	-----

Pressure hPa	:	740
rack travel mm	:	13.20
Tolerance mm	: +-	0.20

Pressure hPa	:	400
rack travel mm	:	10.60
Tolerance mm	: +	- 0.05

Start interlock

Rated speed rpm	: >	100	
Rated speed rpm	: <	250	
Check speed 1/min	: >	80	

Check speed 1/min : < 255

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		42/20	
hPa	:	1200	
Rated speed rpm	:	510	
Del. quantity			
cm3/1000 strokes	:	402.0	
Tolerance			
cm3/1000 strokes	:	← 3.0	
Check tolerance			
cm3/1000s.	:	+- 6.0	
Spreed			
Tolerance			
cm3/1000 strokes	:	8.0	
Check tolerance			
cm3/1000s.		12.0	
CM3/10008.	:	12.0	

rack travel mm	:	14.70
Tolerance mm	: 	0.20

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	400
Del. quantity		
cm3/1000 strokes	:	187.5
Tolerance		
cm3/1000 strokes	: +-	- 2.0
Check tolerance		
cm3/1000s.	: +-	- 4.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	21.00
Tolerance mm	: +-	0.50
Del. quantity		
cm3/1000 strokes	:	190.0
Tolerance		
cm3/1000 strokes	: +-	20.0
Check tolerance		
cm3/1000s.	: +	30.0

LOW IDLE

Rated speed rpm : 600 Rack travel in mm : 4.20 : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 32.0 Tolerance cm3/1000 strokes : \leftarrow 3.0 Check tolerance cm3/1000s.5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.02.98 : 10.02.70 : ISO 4113 Test oil

Combination No. : 0 402 746 622

Injection pump

Pump designation : PES6P120A720RS7424 EP type number : 0 412 726 964

Governor

Governer design. : RQV325...900PA944

: -25K

Governer no. : 0 421 815 536

Cust. part No. : 3136C5228-P16

Customer-spec. information Customer : MACK : E7-350 Motor Power KW : 261.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar

: 1 680 750 008 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 12.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 14.15

Tolerance mm : ← 0.05

Del. quantity	+
cm3/1000 strokes : 319.5	
	+ CONTROL LEVER
Tolerance	+
cm3/1000 strokes : $+$ 1.0	+ control lever
	position degree : 117.0
Check tolerance	+ tolerance degree : + 6.0
cm3/1000s. : +- 4.0	total direct degree
· · · · · · · · · · · · · · · · · · ·	+ RATED SPEED
Spreed	rack travel mm : 13.10
opreed	Rated speed rpm : 945
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : 5.0	T Toterance (Amin : 72 3
CHO/TODO STrokes . J.O	T made travel on / 00
Charle As Language	+ rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1115
cm3/1000s. : 9.0	+ Tolerance 1/min : +- 15
عاجيسي اختلف ويواد المناب المنفية فيرووناك فالناب المناب المناب والمناور	†
	+ rack travel mm : 0.50
	+ Tolerance mm : + 0.50
Rated speed rpm : 600	+ Rated speed rpm : 1200
	+
Rack travel in mm: 4.20	+
Tolerance mm : + 0.10	+
Del. quantity	+
cm3/1000 strokes : 32.0	+ LOW IDLE
Tolerance	
cm3/1000 strokes : + 3.0	1
Check tolerence	+ control lever
cm3/1000s. : +- 5.0	position degree : 64.0
Spreed	tolerance degree : + 6.0
Tolerance	1 total dide degree
cm3/1000 strokes : 8.0	Setting point w/out bumper spring
Check tolerance	T secting both wood builder shring
	T Separation and any a 275
cm3/1000S. : 12.0	Rated speed rpm : 275
	T 007 mm min (40
(D) DETERMS OF THE COTTON DIND	+ CRT mm min. :> 6.10
(B) SETTING OF INJECTION PUMP	Ť
WITH GOVERNOR	† Testing:
	†
	+ Rated speed rpm : 600
	+ rack travel mm : 4.20
FULL LOAD DELIVERY AT FULL LOAD STOP	† Tolerance mm : ← 0.10
	†
Rated speed rpm : 900	+ Rated speed rpm : 425
Aneroid pressure	+
hPa : 1200	
Del. quantity	+ TORQUE CONTROL
cm3/1000 strokes : 319.5	+ Rated speed rpm : 900
Tolerance	+ rack travel mm : 14.15
cm3/1000 strokes : + 1.0	+ Tolerance mm : + 0.05
Check tolerance	+
cm3/1000s. : +- 4.0	Rated speed rpm : 625
Spreed	+ rack travel mm : 13.60
Tolerance	+ Tolerance mm : + 0.10
cm3/1000 strokes : 5.0	1000 and 100 tipm
Check tolerance	Rated speed rpm : 500
cm3/1000s. : 9.0	rack travel mm : 12.80
CIRJ/ 10000 . 7.0	+ Tolerance mm : + 0.40
	T rocerance man : - 0.40
	

ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 900 : 1200
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900 : - : 8.50 : + 0.20
MEASUREMENT	
Rated speed rpm	: 900
Pressure hPa rack travel mm Tolerance mm	: 810 : 13.20 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 420 : 10.15 : + 0.05
Start interlock	
Rated speed rpm Rated speed rpm	: > 100 : < 250
Check speed 1/min Check	: > 80
speed 1/min	: < 255
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 625
cm3/1000 strokes Tolerance	: 339.5
cm3/1000 strokes Check tolerance	: ← 3.0
cm3/1000s. Spreed	: 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
rack travel mm	: 12.80

Tolerance mm	: +- 0.40	
Aneroid pressure		
hPa Rated speed rpm	400	
Del. quantity	. 400	
cm3/1000 strokes	: 171.0	
Tolerance		
cm3/1000 strokes Check tolerance	: +- 2.0	
cm3/1000s.	: + 4.0	
STARTING FUEL DEL	IVERY	
Rated speed rpm	: 100	
rack travel mm	: 20.50	
Tolerance mm Del. quantity	: ← 1.00	
cm3/1000 strokes	: 190.0	
Tolerance		
cm3/1000 strokes	: +- 20.0	
Check tolerance cm3/1000s.	: +- 30.0	
	~	
LOW IDLE		
LOW IDLE Rated speed rpm		
Rated speed rpm Rack travel in mm	: 4.20	
Rated speed rpm Rack travel in mm Tolerance mm		
Rated speed rpm Rack travel in mm	: 4.20 : +- 0.10	-
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 4.20 : + 0.10 : 32.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 4.20 : +- 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 4.20 : + 0.10 : 32.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 4.20 : + 0.10 : 32.0 : + 3.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 4.20 : + 0.10 : 32.0 : + 3.0 : + 5.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 4.20 : + 0.10 : 32.0 : + 3.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 4.20 : + 0.10 : 32.0 : + 3.0 : + 5.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.20 : + 0.10 : 32.0 : + 3.0 : + 5.0 : 8.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.20 : + 0.10 : 32.0 : + 3.0 : + 5.0 : 8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.02.98 Edition Test oil : ISO 4113

Combination No. : 0 402 746 623

Injection pump

Pump designation : PES6P120A720RS7424 EP type number : 0 412 726 964

Governor

Governer design. : RQV325...875PA944

: -26K

Governer no. : 0 421 815 537

Cust. part No. : 313GC5228-P4

Customer-spec. information Customer : MACK Motor : EM7-275 Power KW : 202.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

bar 208.5 Tolerance bar

: 1 680 750 008 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : ണ

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : : **←** 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 12.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : - 0.75

Start of delivery blocking

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. 1

BASIC SETTING

Rated speed rpm : 875

Rack travel in mm: 13.45 Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 293.5

	1
Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 118.0 tolerance degree : + 4.0
cm3/1000s. : + 4.0	RATED SPEED rack travel mm : 12.40
Spreed	Rated speed rpm : 920 Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : 5.0	Check speed 1/min : + 10
Check tolerance cm3/1000s. : 9.0	rack travel mm : 4.00 Rated speed rpm : 1075 Tolerance 1/min : + 15 Check
Rated speed rpm : 340	speed 1/min : +- 20
Rack travel in mm : 4.90 Tolerance mm : + 0.10	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1200
Del. quantity cm3/1000 strokes : 40.0 Tolerance	T vared speed this : 1000
cm3/1000 strokes : \(\begin{array}{c} 3.0 \\ \text{check tolerance} \\ \text{cm3/1000s.} \\ \text{Spreed} \end{array}	LOW IDLE
Tolerance cm3/1000 strokes : 8.0 Check tolerance	control lever position degree : 63.5 tolerance degree : + 4.0
cm3/1000s. : 12.0	+ Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 275
WZTTI GOYCITTON	CRT mm min. : > 6.00
FULL LOAD DELIVERY AT FULL LOAD STO	Testing:
Rated speed rpm : 875	Rated speed rpm : 340 rack travel mm : 4.90
Aneroid pressure hPa : 1200	Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 293.5	Rated speed rpm : 425
Tolerance cm3/1000 strokes : + 1.0 Check tolerance	TORQUE CONTROL Rated speed rpm : 875
cm3/1000s. : + 4.0 Spreed	rack travel mm : 13.45 Tolerance mm : + 0.05
Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 510 rack travel mm : 14.20
cm3/1000s. : 9.0	Tolerance mm : +- 0.10
CONTROL LEVED	Rated speed rpm : 600 rack travel mm : 14.30
CONTROL LEVER	↑ Tolerance mm : ← 0.10

Rated speed rpm rack travel mam Tolerance mam	: 450 : 13.60 : ← 0.20	Check tolerance cm3/1000s. : 12.0
ANEROID/ALTITUDE COMPENSATOR TEST		rack travel mm : 14.30 Tolerance mm : +- 0.10
SETTING		Aneroid pressure hPa : - Rated speed rpm : 400
Rated speed rom	: 510	+ Rated speed rpm : 400 + Del. quantity
Rated speed rpm Pressure hPa	: 1200	cm3/1000 strokes : 185.0
rack travel mm	: 14.20	+ Tolerance
Tolerance mm	: ← 0.10	+ cm3/1000 strokes : +- 2.0
Dated annual con	. 540	Check tolerance
Rated speed rpm Pressure hPa	: 57U	cm3/1000s. : +- 4.0
Pressure hPa rack travel mm	. 8.80	Ī
Tolerance mm	: + 0.20	
		STARTING FUEL DELIVERY
MEASUREMENT		+
Dated speed non	. 540	+ Rated speed rom : 100 + rack travel mm : 21.00
Rated speed rpm	: 310	Tolonopoo en . +- 0.50
Pressure hPa	: 635	Del. quantity
rack travel mm		- cm3/1000 strokes : 180.0
Tolerance mm		- Tolerance
		Del. quantity cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : +- 20.0
Pressure hPa	: 310 : 10.15	+ Uneck tolerance
rack travel mm	: 10.15	+ cm3/1000s. : $+$ 30.0
Tolerance mm	: ← 0.05	‡
Start interlock		LOW IDLE
Rated speed rpm	•> 100	I LOW IDLE
Rated speed rpm		Rated speed rpm : 340
, , , , , , , , , , , , , , , , , , ,		+
Check		+ Rack travel in mm : 4.90
speed 1/min	: > &0	+ Tolerance mm : + 0.10
Check	. / SEE	+ Del. quantity
speed 1/min	: < 255	+ cm3/1000 strokes : 40.0 Tolerance
		+ cm3/1000 strokes : +- 3.0
FUEL DELIVERY CHA	ARACTERISTICS	+ Check tolerance
		+ cm3/1000s. : +- 5.0
		+ Spreed
Aneroid pressure	4000	+ Tolerance
hPa	: 1200	+ cm3/1000 strokes : 8.0
Rated speed rpm Del. quantity	: 510	+ Check tolerance + cm3/1000s. : 12.0
cm3/1000 strokes	• 381 n	T (1107 10003. : 12.0
Tolerance	. 501.0	1
cm3/1000 strokes	: + 3.0	
Check tolerance		
cm3/1000s.	: ← 6.0	+
Spreed		+ End of test specification sheet
Tolerance	2.2	†
cm3/1000 strokes	: 8.0	+

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 624

Injection pump

Pump designation : PES6P120A720RS7424 EP type number : 0 412 726 964

Governor

Governer design. : RQV325...975PA944

: -27K

Governer no. : 0 421 815 538

Cust. part No. : 313GC5228-P8

Customer—spec. information Customer : MACK Motor : E7-300A Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 12.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : \leftarrow 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 12.95
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 272.0

1	Rated speed rpm : 1350
Tolerance	guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 13.50
	Tolerance mm : +- 0.50
Check tolerance	
cm3/1000s. : + 4.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	TOLD BOTTO DECEMBER TO THE COMP OF CO.
1	Rated speed rpm : 975
Tolerance	Aneroid pressure
cm3/1000 strokes : 5.0	hPa : 1200
	Del. quantity
Check tolerance	cm3/1000 strokes : 272.0
cm3/1000s. : 9.0	Tolerance
	cm3/1000 strokes : +- 1.0
	Check tolerance
- <u>↓</u>	cm3/1000s. : +- 4.0
Rated speed rpm : 340	Spreed
	Tolerance
Rack travel in mm: 4.80	cm3/1000 strokes : 5.0
Tolerance mm : + 0.10	Check tolerance
Del. quantity	cm3/1000s. : 9.0
cm3/1000 strokes : 31.5	. ,.()
Tolerance	
cm3/1000 strokes : + 3.0	
Check tolerance	CONTROL LEVER
cm3/1000s. : + 5.0	
Spreed	control lever
Tolerance	position degree : 112.0
cm3/1000 strokes : 8.0	tolerance degree : + 4.0
Check tolerance	
cm3/1000s. : 12.0	RATED SPEED
<u> </u>	rack travel mm : 11.90
+	Rated speed rpm : 1020
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 5
WITH GOVERNOR +	Check
+	speed 1/min : +- 10
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00
+	Rated speed rpm : 1180
Rated speed rpm : 1031 +	Tolerance 1/min : +- 10
guide sleeve	Check
travel mm : 9.10 +	speed 1/min : + 20
Tolerance mm : + 0.15 +	
+	rack travel mm : 0.50
Rated speed rpm : 340	Tolerance mm : $\leftarrow 0.50$
guide steeve +	Rated speed rpm : 1300
travel mm : 1.75	
Tolerance mm : + 0.20 +	
†	
Rated speed rpm : 882	LALL TALE
guide sleeve +	LOW IDLE
travel mm : 7.75	
Tolerance mm : + 0.25	annanal lava-
Rated speed rpm : 590	control lever
	position degree : 65.0
guide sleeve + travel mm : 4.25 +	tolerance degree : +- 4.0
travel mm : 4.25 + Tolerance mm : + 0.25 +	Setting point w/out bumper spring
Total and The State of the Stat	secting point wout pumper spring
T	

Rated speed rpm	: 240	+
CRT mm min.	: > 6.50	+ Check + speed 1/min :> 80
Testing:		+ Check + speed 1/min : < 255
Rated speed rpm rack travel mm	: 4.80	FUEL DELIVERY CHARACTERISTICS
Tolerance mm	: + 0.10	ļ ————————————————————————————————————
Rated speed rpm	: 425	Aneroid pressure hPa: 1200
TORQUE CONTROL Rated speed rom	: 975 • 12 95	Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 287.0 Tolerance
rack travel mm Tolerance mm	: +- 0.05	cm3/1000 strokes : + 3.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.25 : ← 0,10	cm3/1000s. : +- 6.0 Spreed Tolerance
Rated speed rpm		- cm3/1000 strokes : 8.0 Check tolerance
rack travel mm Tolerance mm	: 11.60	cm3/1000s. : 12.0
AMEROID/ALTITUDE COMPENSATOR TEST		rack travel mm : 11.60 Tolerance mm : +- 0.20
SETTING		Aneroid pressure hPa : -
Rated speed rpm Pressure hPa	: 1200	Rated speed rpm : 400 - Del. quantity - cm3/1000 strokes : 171.0
rack travel mma Tolerance mm	: 12.95 : ← 0.05	Tolerance - cm3/1000 strokes : +- 2.0
Rated speed rpm Pressure hPa rack travel mma Tolerance mm	: - : 8.70	- Check tolerance - cm3/1000s. : +- 4.0
MEASUREMENT	0.20	STARTING FUEL DELIVERY
Rated speed rpm	: 975	Rated speed rpm : 100 rack travel mm : 21.00 Tolerance mm : +- 0.50
Pressure hPa rack travel mm Tolerance mm	: 640 : 11.80 : ← 0.20	Del. quantity cm3/1000 strokes : 180.0 Tolerance
Pressure hPa rack travel mm Tolerance mm	: 325 : 9.45 : + 0.05	- cm3/1000 strokes : +- 20.0 - Check tolerance - cm3/1000S. : +- 30.0
Start interlock		LOW IDLE
Rated speed rpm Rated speed rpm		Rated speed rpm : 340

Rack travel in mm Tolerance mm	: : +-	4.80 0.10
Del. quantity cm3/1000 strokes	:	31.5
Tolerance cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s.	: +-	5.0
Tolerance cm3/1000 strokes	•	8.0
Check tolerance cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 625

Injection pump

Pump designation : PES6P12OA72ORS7424 EP type number : 0 412 726 964

Governor

Governer design. : RQV325...875PA944

: -28K

Soverner no. : 0 421 815 539

Cust. part No. : 313GC5228-P2

Customer—spec. information Customer : MACK Motor : EM7-250 Power KW : 187.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mma: 12.00 Tolerance mma: + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 875

Rack travel in mm : 12.45
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 269.5

	Rated speed rpm : 1260
Tolerance	guide sleeve
cm3/1000 strokes : +- 1.0	travel mm : 13.50
	├ Tolerance mm : ← 0.50
Check tolerance	†
cm3/1000s. : +- 4.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	t
	Rated speed rpm : 875
Tolerance	Aneroid pressure
cm3/1000 strokes : 5.0	hPa : 1200
	Del. quantity
Check tolerance	cm3/1000 strokes : 269.5
cm3/1000s. : 9.0	Tolerance
~	cm3/1000 strokes : + 1.0
	Check tolerance
	+ cm3/1000s. : $+$ 4.0
Rated speed rpm : 340	+ Spreed
-	Tolerance
Rack travel in mm: 4.70 -	- cm3/1000 strokes : 5.0
Tolerance mm : + 0.10	Check tolerance
Del. quantity -	+ cm3/1000s. : 9.0
cm3/1000 strokes : 34.0	†
Tolerance	†
cm3/1000 strokes : $+$ 3.0	
Check tolerance	CONTROL LEVER
cm3/1000s. : +- 5.0	†
Spreed	control lever
Tolerance	position degree : 116.0
cm3/1000 strokes : 8.0	tolerance degree : + 4.0
Check tolerance	†
cm3/1000s. : 12.0	RATED SPEED
•	rack travel mm : 11.40
•	Rated speed rpm : 920
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 5
WITH GOVERNOR	†
•	rack travel mm : 4.00
	Rated speed rpm : 1055
GUIDE SLEEVE TRAVEL	Tolerance 1/min : + 15
Rated speed rpm : 933	rack travel mm : 0.50
guide sleeve	Tolerance mm : + 0.50
travel mm : 9.87	Rated speed rpm : 1200
Tolerance mm : +- 0.15	<u>†</u>
-	†
Rated speed rpm : 340	†
guide sleeve	
travel mma : 2.25	LOW IDLE
Tolerance mm : + 0.20	<u>†</u>
Rated speed rpm : 706	control lever
guide sleeve	position degree : 63.0
travel mm : 8.09	tolerance degree : +- 4.0
Tolerance mm : + 0.25	
Bakadd	Setting point w/out bumper spring
Rated speed rpm : 480	Data di anno di
guide sleeve	Rated speed rpm : 240
travel mm : 4.59	ODT on the
Tolerance mm : + 0.25	+ CRT mm min. :> 6.34

Testing:

Rated speed rpm : 340 : 4.70 rack travel mm : + 0.10 Tolerance non

Rated speed rpm : 425

TORQUE CONTROL 875 Rated speed rpm 12.45 rack travel mm : **←** 0.05 Tolerance mm

: 510 : 13.20 510 Rated speed rpm rack travel mm : **←** 0.10 Tolerance mm

400 Rated speed rpm : 12.20 rack travel mm : + 0.20 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

510 Rated speed rpm : 1200 Pressure hPa 13.20 rack travel mm : + 0.1G Tolerance and

510 Rated speed rpm Pressure hPa 8.70 rack travel mm : : + 0.20Tolerance am

MEASUREMENT

Rated speed rpm : 510

Pressure hPa 570 12.20 rack travel mm : +- 0.20 Tolerance mm

285 9.90 11.05 Pressure hPa : rack travel mm : : + 0.05 Tolerance mm

Start interlock

100 Rated speed rpm : > Rated speed rpm 250

Check

speed 1/min : > 80 Check speed 1/min : < 255

12.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure 1200 hPa : 510 Rated speed rpm Del. quantity cm3/1000 strokes : 345.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance

rack travel mm : 12.20 : **←** 0.20 Tolerance mm

Aneroid pressure

cm3/1000s.

hPa Rated speed rpm 400 Del. quantity

cm3/1000 strokes : 183.0

Tolerance

cm3/1000 strokes : +-

Check tolerance

cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm 21.00 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 190.0 Tolerance

cm3/1000 strokes : \leftarrow 20.0

Check tolerance

cm3/1000s. : **←** 30.0

LOW IDLE

Rated speed rpm : 340

Rack travel in mm: 4.70 Tolerance mm : \leftarrow 0.10

Del. quantity cm3/1000 strokes	:	34.0
Tolerance cm3/1000 strokes	: ←	3.0
Check tolerance cm3/1000s. Spreed	: +-	5 .0
Tolerance cm3/1000 strokes	:	8.0
Check tolerance cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 626

Injection pump

Pump designation : PES6P12OA72ORS7424 EP type number : 0 412 726 964

Governor ...

Governer design. : RQV325...975PA944

: -29K

Governer no. : 0 421 815 540

Cust. part No. : 3136C5228-P6

Customer—spec. information
Customer : MACK
Motor : E7-250A
Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 413 359 008

Inlet press. bar : 2.8 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 12.00Tolerance mm : $\leftarrow 1.00$

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 975

Rack travel in mm : 12.95 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 270.5

+	Rated speed rpm : 1430
Tolerance	guide sleeve
cm3/1000 strokes : +- 1.0 +	travel mm : 13.50
<u> </u>	Tolerance mm : +- 0.50
Check tolerance	
cm3/1000s. : $+$ 4.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	Datad aread mm . 075
Tolerance	Rated speed rpm : 975 Aneroid pressure
cm3/1000 strokes : 5.0	hPa : 1200
1	Del. quantity
Check tolerance	cm3/1000 strokes : 270.5
cm3/1000s. : 9.0	Tolerance
<u> </u>	cm3/1000 strokes : +- 1.0
+	Check tolerance
<u> </u>	cm3/1000s. : $+$ 4.0
Rated speed rpm : 340 +	Spreed
Dural Association of the Control of	Tolerance
Rack travel in mm : 4.90	cm3/1000 strokes : 5.0
Tolerance mm : + 0.10 + Del. quantity +	Check tolerance cm3/1000s. : 9.0
cm3/1000 strokes : 40.0	cm3/1000s. : 9.0
Tolerance	
cm3/1000 strokes : + 3.0	***************************************
Check tolerance	CONTROL LEVER
$cm3/1000s$. : \leftarrow 5.0	
Spreed	control lever
Tolerance +	position degree : 111.0
cm3/1000 strokes : 8.0 +	tolerance degree : - 4.0
Check tolerance	
cm3/1000s. : 12.0 +	RATED SPEED
†	rack travel mm : 11.90
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1020 Tolerance 1/min : +- 5
WITH GOVERNOR	Check
WITH GOVERNOR	speed 1/min : + 10
GUIDE SLEEVE TRAVEL	rack travel mm : 4.00
+	Rated speed rpm : 1190
Rated speed rpm : 1031	Tolerance 1/min : - 15
guide sleeve	Check
travel mm : 8.91	speed $1/\min$: \leftarrow 20
Tolerance mm : + 0.15	mock through me a 0.50
Rated speed rpm : 340	rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve	Rated speed rpm : 1300
travel mm : 2.25	Nated Speed (pin : 1500
Tolerance mm : + 0.20	
+	
Rated speed rpm : 882	
guide sleeve	LOW IDLE
travel mm : 7.70	
Tolerance mm : + 0.25	and the law of
204-d aread mm . EM	control lever
Rated speed rpm : 590 + guide sleeve +	position degree : 63.0
travel mm : 4.37	tolerance degree : +- 4.0
Tolerance mm : + 0.25	Setting point w/out bumper spring
	country bettie woode pumper opi mg

Rated speed rpm : 265 CRT mm min. : > 6.50 Testing:
Rated speed rpm : 340
Rated speed rpm : 340
Toterance mm
Toterance mm
Rated speed rpm : 425
Pa
TORQUE CONTROL Rated speed rpm : 975 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 600 Rated speed rpm : 4.00 Rated speed rpm : 500 rack travel mm : 12.60 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 11.80 Tolerance mm : + 0.20 Rated speed rpm : 500 Rated speed rpm : 11.80 Tolerance mm : + 0.20 Rated speed rpm : 975 Pressure hPa : 1200 rack travel mm : 11.80 Tolerance mm : + 0.20 Rated speed rpm : 975 Pressure hPa : 1200 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Sated speed rpm : 975 Tolerance mm : + 0.20 Rated speed rpm : 975 Tolerance mm : + 0.20 STARTING FUEL DELIVERY MEASUREMENT Rated speed rpm : 975 Pressure hPa : 590 rack travel mm : 11.60 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.0 STARTING FUEL DELIVERY Rated speed rpm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000s. : + 4.0 Tolerance cm3/1000s. : + 4.0 Tolerance mm : + 0.20 Pressure hPa : 590 rack travel mm : 20.00 Tolerance cm3/1000 strokes : 180.0 Tolerance mm : + 1.00 Del. quantity cm3/1000s. : + 30.0
Del. quantity cm3/1000 strokes : 303.0
Rated speed rpm : 975 rack travel mm : 12.95 Tolerance mm : ± 0.05 Rated speed rpm : 500 rack travel mm : 12.60 Tolerance mm : ± 0.10 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 11.80 Tolerance mm : ± 0.20 Rated speed rpm : 500 Rated speed rpm : 500 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 975 Pressure hPa : 1200 Rated speed rpm : 975 Tolerance mm : ± 0.05 Rated speed rpm : 975 Tolerance mm : ± 0.05 Rated speed rpm : 975 Tolerance mm : ± 0.05 Rated speed rpm : 975 Tolerance mm : ± 0.05 Rated speed rpm : 975 Tolerance mm : ± 0.05 Rated speed rpm : 975 Tolerance mm : ± 0.05 Rated speed rpm : 975 Pressure hPa : - rack travel mm : ± 0.20 MEASUREMENT Rated speed rpm : 975 Pressure hPa : 590 Pressure hPa : 330 Pressure hPa : 330 Pressure hPa : 330 Pressure hPa : 590 Pressure hPa : 330 Pressure hPa : 330 Pressure hPa : 590 Pressure hPa : 330 Pressure hPa : 330 Pressure hPa : 590 Pressure hPa : 330 Pressure hPa : 590 Pressure hPa : 590 Pressure hPa : 330 Pressure hPa : 330 Pressure hPa : 590 Pressure hPa : 330 Pressure hPa : 300 Pressure
Tolerance mm : 12.95 Tolerance mm : + 0.05 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 12.60 Tolerance mm : + 0.10 Rated speed rpm : 500 rack travel mm : 11.80 Rated speed rpm : 500 rack travel mm : 11.80 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 975 Pressure hPa : 1200 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 100 Pressure hPa : 590 Pressure hPa : 590 Pressure hPa : 590 Pressure hPa : 590 Tolerance mm : + 0.20 Pressure hPa : 590 Pressure hPa
Reted speed rpm
Rated speed rpm : 500 cm3/1000S. : ← 6.0 spreed Tolerance mm : + 0.10 Tolerance mm : + 0.10 Tolerance mm : + 0.20 Rated speed rpm : 500 check tolerance cm3/1000 strokes : 8.0 check travel mm : 11.80 cm3/1000S. : 12.0 Tolerance mm : + 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 975 pressure hPa : 1200 cm3/1000 strokes : 191.0 Tolerance mm : + 0.05 Tolerance mm : + 0.20
Reted speed rpm : 500 rack travel mm : 12.60 Tolerance mm : + 0.10 Rated speed rpm : 500 Rated speed rpm : 500 rack travel mm : 11.80 Tolerance mm : + 0.20 Rated speed rpm : 500 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 975 Pressure hPa : 1200 rack travel mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 975 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.20 STARTING FUEL DELIVERY MEASUREMENT Rated speed rpm : 975 Tolerance mm : + 0.20 Pressure hPa : 590 Pressure hPa : 590 Tolerance mm : + 0.20 Pressure hPa : 330 Pressure hPa : 330 Pressure hPa : 330 Check tolerance Cm3/1000 strokes : + 20.0 Check tolerance Cm3/1000 strokes : 180.0 Tolerance mm : + 0.20 Pressure hPa : 330 Check tolerance Cm3/1000 strokes : + 20.0 Check tolerance Cm3/1000 strokes : + 30.0
Tack travel mm
Tolerance mm
Cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Rated speed rpm : 500
Tack travel mm
Tolerance mm
ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 975 Pressure hPa : 1200 Rated speed rpm : 975 Tolerance mm : 400 Rated speed rpm : 12.95 Tolerance mm : 400 Rated speed rpm : 975 Rated speed rpm : 975 Pressure hPa : 975 Tolerance mm : 975 Tolerance mm : 975 Tolerance mm : 975 Tolerance mm : 9.05 Tolerance mm : 9.00 Rated speed rpm : 975 Rated speed rpm : 100 Rated speed rpm : 20.00 Tolerance mm : 4.00 Pressure hPa : 590 Pressure hPa : 590 Tolerance mm : 4.00 Pressure hPa : 590 Tolerance mm : 4.00 Rated speed rpm : 100 Tolerance mm : 4.00 Del. quantity Check tolerance Cm3/1000 strokes : 180.0 Tolerance mm : 4.00 Tolerance mm : 4.00 Tolerance cm3/1000 strokes : 4.00
ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 975 Pressure hPa : 1200 rack travel mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Tolerance mm : + 0.05 Rated speed rpm : 975 Pressure hPa : - rack travel mm : 975 Tolerance mm : + 0.20 Rated speed rpm : 975 Pressure hPa : - rack travel mm : 9.05 Tolerance mm : + 0.20 Pressure hPa : 590 Tolerance mm : + 0.20 Pressure hPa : 330 Pr
ANEROID/ALTITUDE COMPENSATOR TEST SETTING Aneroid pressure hPa : - Rated speed rpm : 975 Pressure hPa : 1200 Rated speed rpm : 975 Pressure hPa : - rack travel mm: : 9.05 Tolerance mm : + 0.20 Rated speed rpm : 975 Pressure hPa : - rack travel mm: : 9.05 Tolerance mm : + 0.20 STARTING FUEL DELIVERY MEASUREMENT Rated speed rpm : 975 Rated speed rpm : 975 Pressure hPa : 590 Pressure hPa : 330 Pressure hPa
Aneroid pressure Pa
Aneroid pressure hPa
Rated speed rpm : 975
Rated speed rpm : 975
Rated speed rpm : 975 Pressure hPa : 1200
Rated speed rpm : 975 Pressure hPa : 1200
Tolerance mm : 12.95 Tolerance mm : + 0.05 Rated speed rpm : 975 Pressure hPa : - rack travel mm: : 9.05 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 975 Rated speed rpm : 975 Pressure hPa : 590 Pressure hPa : 590 Pressure hPa : 10.00 Tolerance mm : + 1.00 Del. quantity rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity rack travel mm : 11.60 Tolerance mm : + 0.20 Pressure hPa : 330 Pressure hPa : 300
Tolerance mm
Tolerance mm
Rated speed rpm : 975 Pressure hPa : - rack travel mm: 9.05 Tolerance mm : + 0.20 Rated speed rpm : 975 Rated speed rpm : 975 Rated speed rpm : 975 Rated speed rpm : 20.00 Tolerance mm : + 1.00 Pressure hPa : 590 Pressure hPa : 11.60 Tolerance mm : + 0.20 Pressure hPa : 330
Pressure hPa : - rack travel mm: 9.05 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 975 Rated speed rpm : 20.00 Pressure hPa : 590 rack travel mm : 1.00 Pressure mm : 11.60 Tolerance mm : + 0.20 Pressure hPa : 330 Pressure hPa : 330 rack travel mm : 9.75 Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 30.0
Tolerance mm
MEASUREMENT Rated speed rpm : 100 Rated speed rpm : 975 rack travel mm : 20.00 Tolerance mm : + 1.00 rack travel mm : + 1.00 Pressure hPa : 590 bel. quantity rack travel mm : 11.60 cm3/1000 strokes : 180.0 Tolerance mm : + 0.20 Tolerance Pressure hPa : 330 check tolerance rack travel mm : 9.75 cm3/1000s. : + 30.0
MEASUREMENT Rated speed rpm : 100 Rated speed rpm : 975 rack travel mm : 20.00 Tolerance mm : + 1.00 Tolerance mm : + 1.00 Pressure hPa : 590 pel. quantity rack travel mm : 11.60 cm3/1000 strokes : 180.0 Tolerance mm : + 0.20 Tolerance Pressure hPa : 330 Check tolerance rack travel mm : 9.75 cm3/1000s. : + 30.0
MEASUREMENT Rated speed rpm : 100 Rated speed rpm : 975 rack travel mm : 20.00 Tolerance mm : + 1.00 Tolerance mm : + 1.00 Pressure hPa : 590 pel. quantity rack travel mm : 11.60 ra3/1000 strokes : 180.0 Tolerance mm : + 0.20 Tolerance Pressure hPa : 330 Check tolerance rack travel mm : 9.75 ra3/1000s. : + 30.0
Rated speed rpm : 975 Rated speed rpm : 975 Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Pressure hPa : 590 Tolerance mm : + 0.20 Pressure hPa : 330 Pressure hPa : 330 Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Tolerance cm3/1000 strokes : + 20.0 Check tolerance rack travel mm : 9.75 Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 30.0
Rated speed rpm : 975
Tolerance mm : + 1.00 Pressure hPa : 590 rack travel mm : 11.60 Tolerance mm : + 0.20 Pressure hPa : 330 rack travel mm : 9.75 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 30.0
Pressure hPa : 590
rack travel mm : 11.60 + cm3/1000 strokes : 180.0 Tolerance mm : + 0.20 + Tolerance - cm3/1000 strokes : + 20.0 Pressure hPa : 330 + Check tolerance rack travel mm : 9.75 + cm3/1000s. : + 30.0
Tolerance mm : + 0.20
rack travel mm : 9.75 + cm3/1000 strokes : + 20.0 + Check tolerance + 30.0
rack travel mm : 9.75 + cm3/1000s. : + 30.0
Tolerance mm : +- U.U5 +
†
Start interlock
Start Interlock + LOW IDLE
Rated speed rom · > 100 ±
Rated speed rpm : > 100 + Rated speed rpm : 340

Rack travel in man Tolerance man	: : +-	4.90 0.10
Del. quantity cm3/1000 strokes Tolerance	:	40.0
cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s. Spreed	: +-	5.0
Tolerance cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 402 776 838

Injection pump

Pump designation : PES6P12OA72ORS7382 EP type number : 0 412 726 943

Sovernor

Governer design. : RSV625...1100P0A547

: -14

Governer no. : 0 421 833 545

Cust. part No. : RE67358

Customer—spec. information Customer : DEERE

Motor : 608? HZ00? Power KW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 079

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : ← 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery mark

*NW after s.o.d. : 9.50 Tolerance : + 0.50

Check

tolerance *NW : ← 0.75

Barrel no. : '

Beginning of delivery differende

and maximum rack

travel : 14.00 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.45 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100
Del. quantity cm3/1000 strokes : 196.0	+ Rated speed rpm : 1100 + Aneroid pressure + hPa : 2000 + Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 196.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 4.0	Check tolerance cm3/1000s. : + 4.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes : 5.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	
	CONTROL LEVER
Rated speed rpm : 625	+ control lever + position degree : 97.0 + tolerance degree : + 4.0
Rack travel in mm: 5.10	+ total and dag. as the vita
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	rack travel mm : 10.40
cm3/1000 strokes : 21.5	Rated speed rpm : 1175
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : +- 3.0	}
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 5.0	Rated speed rpm : 1235
Spreed	+
Tolerance	+ rack travel mm : 0.85
cm3/1900 strokes : 8.0	Tolerance mm : + 0.55
Check tolerance	+ Rated speed rpm : 1350
cm3/1000s. : 12.0	† , , , , , , , , , , , , , , , , , , ,
•	rack travel mm : 4.00
(D) CETTING OF INJECTION DUMP	Rated speed rom : 1235
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
position degree : - 3	position degree : 80.0
Rated speed rpm : 800	tolerance degree : + 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring
	Rated speed rpm : 625
governor spring	rack travel mm : 4.60
pre-tension	Tolerance mm : + 0.10
click setting $x : 3.75$	Dated annual area and Annual
•	† Rated speed rpm : 100

CRT mm min.	: > 19.00	
Testing:		
Rated speed rpm rack travel mm Tolerance mm	: 625 : 5.10 : + 0.10	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.45 : ← 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.00 : ← 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa	: 500 : 2000	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.60 : + 0.20	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 1350 : 12.30 : + 0.20	
Pressure hPa rack travel mm Tolerance mm	: 630 : 10.50 : + 0.05	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm Del. quantity	: 2000 : 700	
cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 262.0 : ← 3.0	
cm3/1000s.	: +- 6.0	

Aneroid pressure hPa	•	_	
Rated speed rpm	:	700	
Del. quantity cm3/1000 strokes	:	136.5	
Tolerance cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000s.	: +-	4.0	
STARTING FUEL DEL	IVERY		
	2 • C	400	
Rated speed rpm	:	100	
rack travel mm		20.50	
Tolerance mm	: +-	0.50	
Del. quantity		105.0	
cm3/1000 strokes	:	105.0	
Tolerance		20.0	
cm3/1000 strokes Check tolerance	: +-	20.0	
cm3/1000s.		25.0	
LOW IDLE		······································	
LOW IDLE	·	625	
Rated speed rpm		625 5,10	
Rated speed rpm Rack travel in mm Tolerance mm			
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity	: +-	5.10 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: +-	5.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: : +-	5.10 0.10 21.5	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: +-	5.10 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: : +-	5.10 0.10 21.5 3.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: : +-	5.10 0.10 21.5	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: : +-	5.10 0.10 21.5 3.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +-	5.10 0.10 21.5 3.0 5.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: : +-	5.10 0.10 21.5 3.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +-	5.10 0.10 21.5 3.0 5.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +-	5.10 0.10 21.5 3.0 5.0	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +-	5.10 0.10 21.5 3.0 5.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.02.98 Edition : ISO 4113 Test oil

Combination No. : F 002 A0Z 015

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250A0C892R

Governer no. : F 002 A20 215

Cust. part No. : 3928602

Customer—spec. information

Customer : CDC

Motor : 48TA ELITE

Power KW : 86.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0 temp. °C 40

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bur $: \leftarrow 1.5$

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-3-4-2

Tolerance Check : 0-90-180-270

: +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 9.00 Tolerance : \leftarrow 0.10

Check

tolerance $^{\circ}NW$: \leftarrow 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35 Tolerance mm : + 0.05

Del. quantity +	Tolerance
cm3/1000 strokes : 113.0	cm3/1000 strokes : + 1.0
<u></u> +	Check tolerance
Tolerance	cm3/1000s. : +- 3.0
cm3/1000 strokes : +- 1.0 +	Spreed
<u> </u>	Tolerance
Check tolerance	cm3/1000 strokes : 3.5
cm3/1000s. : $+$ 3.0	Check tolerance
<u> </u>	cm3/1000s. : 6.0
Spreed	
+	
Tolerance +	
cm3/1000 strokes : 3.5	CONTROL LEVER
+	
Check tolerance	control lever
cm3/1000s. : 6.0 +	position degree : 111.0
<u> </u>	tolerance degree : +- 4.0
+	
<u> </u>	RATED SPEED
Rated speed rpm : 475	rack travel mm : 12.30
†	Rated speed rpm : 1320
Rack travel in mm: 6.00	Tolerance 1/min : +- 5
Tolerance mm : + 0.10 +	
Del. quantity +	rack travel mm : 5.10
cm3/1000 strokes : 21.0 +	Rated speed rpm : 1410 _
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0 +	
Check tolerance +	rack travel mm : 0.85
cm3/1000s. : + 4.5	Tolerance mm : +- 0.55
Spreed +	Rated speed rpm : 1475
Tolerance	
cm3/1000 strokes : 3.5	rack travel mm : 5.10
Check tolerance +	Rated speed rpm : 1410
cm3/1000s. : 5.5	Tolerance 1/min : +- 15
†	
(D) OFFITAIC OF THIS COTTON OF THE	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	LOU TO P
†	LOW IDLE
GUIDE SLEEVE POSITION	control lever
GOIDE SEEENE POSITION	position degree : 85.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Turca speed (pill . Out	totel allee deglee . The 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : + 0.20	Grad : 26.0
Tolerance mm : +- 0.20	
Tolerance mm : + 0.20 + governor spring +	Grad : 26.0 tolerance degree : + 6.0
Tolerance mm : + 0.20 + governor spring pre-tension +	Grad : 26.0
Tolerance mm : + 0.20 + governor spring +	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring
Tolerance mm : + 0.20 + governor spring pre-tension +	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475
Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.50
Tolerance mm : + 0.20 + governor spring pre-tension +	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475
Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.50 Tolerance mm : + 0.10
Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.50
Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.50 Tolerance mm : + 0.10 Rated speed rpm : 100
governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1000	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.50 Tolerance mm : + 0.10
Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	Grad : 26.0 tolerance degree : + 6.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.50 Tolerance mm : + 0.10 Rated speed rpm : 100

Rated speed rpm rack travel mm Tolerance mm	: : +-	475 6.00 - 0.10
rack travel ma	•	2 00

rack travel mm : 2.00
Rated speed rpm : 560
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250 rack travel mm : 13.35 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 800 Pressure hPm : 1000

Rated speed rpm : 800
Pressure hPa : rack travel mm : 11.30
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 800

Pressure hPa : 650 rack travel mm : 12.80 Tolerance mm : + 0.20

Pressure hPa : 500 rack travel mm : 12.00 Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 86.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

cm3/1000s. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 121.5
Tolerance
cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm: 6.00
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 21.0

Tolerance cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 4.5 Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.02.98 : ISO 4113

Combination No. : F 002 ADZ 061

Injection pump

Pump designation : PES4A95D32D/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : RSV475...1100A2C941R

Governer no. : F 002 A20 242

Clist. part No. : 3930143

Customer—spec. information

Customer : CDC : 4BNA3.9 Motor

Power KW

: 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

: + 2.0 Tolerance *C

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : **←** 0.05

Check

tolerance ma: \leftarrow 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : **←** 0.50

Check

: + 0.75tolerance *NW

Start of delivery blocking

*NW after s.o.d. : 9.50

Tolerance : + - 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.55

Tolerance mm : \leftarrow 0.05

	rack travel mm : 4.00 Rated speed rpm : 1250 Tolerance 1/min : +- 15
Rated speed rpm : 515	Toter diste 17 milli . +- 15
Rack travel in mm: 5.40	
Tolerance mm : + 0.20	
Del. quantity cm3/1000 strokes : 13.5	LOW IDLE
Tolerance	And I lave
cm3/1000 strokes : + 2.0 + Check tolerance	control lever position degree : 81.0
cn3/1000s. : + 4.5	tolerance degree : + 4.0
Spreed	total allocation and the second
Tolerance +	Control lever difference
cm3/1000 strokes : 3.5	Grad : 19.0
Check tolerance	tolerance degree : +- 6.0
cm3/1000s. : 5.5	Codd Survey - Sude of Sude house a survey
‡	Setting point w/out bumper spring
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 515
WITH GOVERNOR	rack travel mm : 4.90
‡	Tolerance mm : + 0.20
GUIDE SLEEVE POSITION	Rated speed rpm : 100
1	CRT mm main. :> 19.00
control Lever	Testing:
position degree : - 3	Dated annual con . EAS
Rated speed rpm : 800	Rated speed rpm : 515 rack travel mm : 5.40
Rack travel in mm: 0.50	Tolerance mm : + 0.20
Tolerance mm : + 0.20	Total area tian
governor spring	TORQUE CONTROL
pre-tension +	Rated speed rpm : 1100
click setting $x : 3.00$	rack travel mm : 10.55
1	Tolerance mm : +- 0.05
	Rated speed rpm : 600
CONTROL LEVER +	rack travel mm : 10.55 Tolerance mm : + 0.20
t	Tolerance mm : + 0.20
control lever	
position degree : 100.0	
tolerance degree : + 4.0	
RATED SPEED	FUEL DELIVERY CHARACTERISTICS
	TOLL VELTTER WINNEYERIOTEO
Rated speed rpm : 1175	····
Tolerance 1/min : + 5	Aneroid pressure
+	hPa : -
rack travel mm : 4.00	Rated speed rpm : 600
Rated speed rpm : 1240	Del. quantity
Tolerance 1/min : + 5	cm3/1000 strokes : 82.0
Total 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Tolerance
rack travel mm : 0.85	cm3/1000 strokes : + 1.0
Tolerance mm : + 0.55 Rated speed rpm : 1350	Check tolerance cm3/1000S. : +- 3.0
rated speed thin . (200	cm3/1000s. : +- 3.0 Spreed
au	opi ecu

Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 6.0 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel nm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s.: **←** 15.0 LOW IDLE Rated speed rpm : 515 Rack travel in mm : 5.40 : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 13.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance : + 4.5 cm3/1000s.Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.02.98 : ISO 4113

Combination No. : F 002 A0Z 063

Injection pump

Pump designation : PES4A95D320/3RS2927

EP type number

: F 002 A10 017

Governor

Governer design. : RSV475...1100A2C943R

Governer no. : F 002 A20 244

Cust. part No. : 3931397

Customer-spec. information

Customer : CDC

Motor Power KW

: 48NA3.9 : 45.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve

: 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

har

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

17.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : ← 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : + - 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Barrel no. 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 8.20

Tolerance mm : +- 0.05

Del. quantity +	Aneroid pressure
cm3/1000 strokes : 75.0	hPa : -
	Del. quantity
Tolerance +	cm3/1000 strokes : 75.0
cm3/1000 strokes : + 1.0 +	Tolerance
<u> </u>	cm3/1000 strokes : +- 1.0
Check tolerance +	Check tolerance
$cm3/1000s.$: \leftarrow 3.0	$cm3/1000s.$: \leftarrow 3.0
<u> </u>	Spreed
Spreed	Tolerance
+	cm3/1000 strokes : 3.5
Tolerance	Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
<u> </u>	
Check tolerance	
cm3/1000s. : 6.0	
	CONTROL LEVER
4.	
1	control lever
Raited speed rpm : 525	position degree : 88.0
1	tolerance degree : +- 4.0
Rack travel in mm : 4.60	
Tolerance mm : +- 0.10	RATED SPEED
Del. quantity +	rack travel mm : 7.20
cm3/1000 strokes : 13.5	Rated speed rpm : 1175
Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : +- 4.5	Rated speed rpm : 1215
Spreed	Tolerance 1/min : + 5
Tolerance	
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1300
1	natau speau (par . 1505)
\mathbf{I}	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1215
WITH GOVERNOR	Tolerance 1/min : + 15
MILLI GOVERNOR	Total ance mining , +- 15
\mathbf{I}	
GUIDE SLEEVE POSITION	
going specific Lostifon	LOW IDLE
I	CAM INCE
control lever	
position degree : -3	control lever
Rated speed rpm : 800	position degree : 74.0
indited sheen i bill . Onn	tolerance degree : +- 4.0
Rack travel in mm: 0.50	total alice degree : T 4.0
Tolerance mm : + 0.20	Control lever difference
	Grad : 14.0
dovernor enring	• • • • • • • • • • • • • • • • • • • •
governor spring + pre-tension +	tolerance degree : +- 6.0
	Satting point Worth human engine
click setting x : 2.75	Setting point w/out bumper spring
	Pated around non . FOF
EINT TOAN DELTHEN AT EINT TOAN OTON	Rated speed rpm : 525
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.10
Dated aread arm : 1100	Tolerance mm : + 0.10
Rated speed rpm : 1100 +	Data damand new . 400
+	Rated speed rpm : 100

CRT mm min. : > 19.00

Testing:

525 Rated speed rpm rack travel mm : 4.60 : + 0.10 Tolerance ma

TORQUE CONTROL

1100 Rated speed rom : 8.20 rack travel mm : : + 0.05Tolerance mm

600 Rated speed rpm 9.20 rack travel mm : + 0.10 Toterance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm 600 Del. quantity

cm3/1000 strokes : 69.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance cm3/1000s. 4.0

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 20.50 : **←** 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

: + 15.0 cm3/1000s.

LOW IDLE

Rated speed rpm : 525

Rack travel in mm: 4.60 : **←** 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 13.02.98 : ISO 4113

Combination No. : F 002 A0Z 064

Injection pump

Pump designation : PES4A95D32D/3RS2927

EP type number : F 002 A10 017

6overnor

Governer design. : RSV475...1000A2C944R

Governer no. : F 002 A20 245

Cust. part No. : 3933090

Customer-spec. information : CDC Customer : 4ENA3.9 Motor

Power KW

: 40.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar $: \leftarrow 0.1$

Test nozzle holde

: 1:688 901 101 assembly

Opening pressure

: 208.5 : + 1.5 bar Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x length mm : 600

2.0

x inside diameter:

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm 2.85 : **←** 0.05 Tolerance mm Check

tolerance mm : \leftarrow 0.10 Rack travel in mm: 10.50

Firing order : 1-3-4-2

: +- 1.50

Phasing : 0-90-180-270

Tolerance : **←** 0.50

Check

Tolerance mm

: **←** 0.75 tolerance *NW

Start of delivery blocking

*NW after s.o.d. : 6.50 Tolerance : **←** 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 8.05 Tolerance mm : \leftarrow 0.05

Del. quantity +	Aneroid pressure
cm3/1000 strokes : 70.5	hPa : -
,	Del. quantity
Tolerance	cm3/1000 strokes : 70.5
cm3/1000 strokes : +- 1.0	Tolerance
1	cm3/1000 strokes : +- 1.0
Check tolerance	Check tolerance
1 - + 11 - 1 - 1 - 1 - 1 - 1	
$cm3/1000s.$: \leftarrow 3.0	$cm3/1000s.$: \leftarrow 3.0
	Spreed
Spreed	Tolerance
†	cm3/1000 strokes : 3.5
Tolerance +	Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
 	
Check tolerance	
cm3/1000s. : 6.0	
1	CONTROL LEVER
 [CONTROL LEVER
Ţ	control lover
Pated around man . FOF	control lever
Rated speed rpm : 525	position degree : 87.0
†	tolerance degree : +- 4.0
Rack travel in mm: 4.75	
Tolerance mm : + 0.10 +	RATED SPEED
Del. quantity +	rack travel mm : 7.00
cm3/1000 strokes : 13.5	Rated speed rpm : 1070
Tolerance +	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : + 4.5	Rated speed rpm : 1090
Spreed	
,	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance +	Tolerance mm : +- 0.55
cm3/1000s. : 5.5 +	Rated speed rpm : 1175
+	, ,
1	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1090
WITH GOVERNOR	Tolerance 1/min : + 15
1	TOTAL TAIL TO
Ţ	
CUTDE CLEDIE DOCTTON	
GUIDE SLEEVE POSITION	1.011.751.7
†	LOW IDLE
+	
control lever +	
position degree : - 3	control lever
Rated speed rpm : 800	position degree : 70.0
	tolerance degree : + 4.0
Rack travel in mm: 0.50	The second section of the second section secti
Tolerance mm : + 0.20	Control lever difference
Total drive limit . , 0.20	Grad : 17.0
T	
governor spring	tolerance degree : +- 6.0
pre-tension +	
click setting $x : 3.75 +$	Setting point w/out bumper spring
+	
	Rated speed rpm : 525
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.25
<u></u>	Tolerance mm : + 0.10
Rated speed rpm : 1000	TOTAL MITTER THE STATE OF THE S
Trace opice (pii 1000	Rated speed rpm : 100
Т	nation special pin . 100

CRT mm min. : > 19.00

Testing:

525 Rated speed rpm : 4.75 rack travel mm Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm 8.05 : +- 0.05 Tolerance mm

Rated speed rpm : 600 rack travel mm 9.15 : ← 0.10 Tolerance Mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

600 Rated speed rom :

Del. quantity

cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance

: +cm3/1000s.4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 : **←** 0.50 Tolerance mm

Del. quantity

cm3/1000 strokes : 120.0

To erance

cm3/1000 strokes : \leftarrow 10.0

Check tolerance

cm3/1000s. : ← 15.0

LOW IDLE

Rated speed rpm : 525

Rack travel in mm: 4.75 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : \leftarrow 2.0

Check tolerance cm3/1000s.

: +--4.5

3.5

Spreed

Tolerance

cm3/1000 strokes :

Check tolerance

cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.02.98 : ISO 4113

Combination No. : 0 401 816 706

Injection pump

Pump designation : PE6P120A300RS3075 EP type number : 0 411 826 719

Governor

Governer design. : Governer no.

Cust. part No. : 846681 PO2 v.11.81

Customer-spec. information : PENTA

Customer Motor

: TD120FG

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar :+ 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 067

Outside diameter : 6.0 x inside diameter: 1.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 2.65 : +- 0.05 Tolerance am

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

: +- 0.75 tolerance *NW

Start of delivery mark

Tolerance : **←** 0.50

Check

tolerance 'NW : ← 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.90 Tolerance mm : **←** 0.10

Del. quantity

cm3/1000 strokes : 244.0

Tolerance cm3/1000 strokes	: ← 1.0
Check tolerance cm3/1000s.	: ← 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 650
Del. quantity cm3/1000 strokes	: 25.0
Tolerance	. 2.0
cm3/1000 strokes	: ← 2.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed	
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 8.0
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP
FULL LOAD DELIVER	RY AT FULL LOAD STOP

Tolerance cm3/1000 strokes	: ← 1.0
Check tolerance cm3/1000s.	: ← 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm Del. quantity	: 650
cm3/1000 strokes Tolerance	: 25.0
cm3/1000 strokes Check tolerance	: 2.0
cm3/1000s. Spr ee d	: + 5.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 8.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
WITH GOVERNOR	Y AT FULL LOAD STOP
FULL LOAD DELIVER Rated speed rpm	
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa	Y AT FULL LOAD STOP
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	Y AT FULL LOAD STOP : 700
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	Y AT FULL LOAD STOP : 700 : -
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	Y AT FULL LOAD STOP : 700 : - : 244.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	Y AT FULL LOAD STOP : 700 : - : 244.0 : ← 1.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	Y AT FULL LOAD STOP : 700 : - : 244.0 : ← 1.0 : ← 4.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s.	Y AT FULL LOAD STOP : 700 : - : 244.0 : ← 1.0 : ← 4.0 : 5.0
FULL LOAD DELIVER Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000strokes Check tolerance	Y AT FULL LOAD STOP : 700 : - : 244.0 : ← 1.0 : ← 4.0 : 5.0

LOW IDLE		
Rated speed rpm Del. quantity	:	650
7 (4000	:	25.0
cm3/1000 strokes Check tolerance	: +	- 2.0
cm3/1000s. Spreed Tolerance	: +	- 5.0
cm3/1000 strokes Check tolerance	:	5.0
cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 12.02.98 : ISO 4113

Combination No. : 0 401 816 715

Injection pump

Pump designation : PE6P12OA300RS3315 EP type number : 0 411 826 808

Governor Governer design. : Governer no.

Cust. part No. : 866027-P04 v.10.93

Customer-spec. information : PENTA Customer

: TAD 730 G Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance *C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5 Tolerance bar : +-0.1

Tolerance l/h: + 20.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.55 : + 0.05 Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.90 : +- 0.50 Tolerance mm:

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery mark

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 10.90

Tolerance mm	: +- 0.10			
Del. quantity cm3/1000 strokes	: 243.0			
Tolerance cm3/1000 strokes	: + 1.0			
Check tolerance cm3/1000s.	: + 4.0			
Spreed				
Tolerance cm3/1000 strokes	: 7.0			
Check tolerance cm3/1000s.	: 11.0			
	700			
Rated speed rpm	: 300			
Rack travel in mm Tolerance mm Del. quantity	: 3.90 : +- 0.30			
cm3/1000 strokes	: 23.0			
Tolerance cm3/1000 strokes	: 3.0			
Check tolerance cm3/1000s.	: +- 6.0			
Spreed Tolerance				
cm3/1000 strokes Check tolerance	: 5.0			
cm3/1000s.	: 8.0			
(B) SETTING OF INJECTION PUMP WITH GOVERNOR				
FULL LOAD DELIVER	Y AT FULL LOAD STOP			
Rated speed rpm	: 700			
Aneroid pressure hPa	: -			
Del. quantity cm3/1000 strokes	: 243.0			
Tolerance cm3/1000 strokes	: +- 1.0			
Check tolerance cm3/1000s.	: + 4.0			
Spr ee d Tolerance	_			
cm3/1000 strokes Check tolerance	: 7.0			
cm3/1000s.	: 11.0			

: 300 : 3.90 : + 0.30
: 700 : 10.90 : + 0.10
700
: 300
: 3.90 : ← 0.30
: 23.0
. 2010
: ← 3.0
: +- 3.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.07.97 Test oil : ISO 4113

Combination No. : 0 401 846 529

Injection pump

Pump designation : PE6P12OA32ORS3186 EP type number : 0 411 826 756

Governor

Governer design. : RQV250...1025PA921

: -4

Governer no. : 0 421 813 787

Cust. part No. : 422719-P05 V. 06/92

Customer-spec. information

Customer : VOLVO-TRUCK
Motor : TD102F (Q)
Power KW : 220.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 120 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

		† Tolerance mma : ← 0.05
BASIC SETTING		Rated speed rpm : 900 guide sleeve
Rated speed rpm	: 700	travel mm : 6.50
nacco speed i pin	• 100	Tolerance mm : +- 0.10
		Total di loc imin
Rack travel in m	m: 12.45	Rated speed rpm : 430
Tolerance ram		guide sleeve
	33.03	+ travel mm : 3.65
Del. quantity		+ Tolerance mm : + 0.15
cm3/1000 strokes	: 198.0	
***************************************		Rated speed rpm : 700
Tolerance		+ guide sleeve
cm3/1000 strokes	: +- 1.0	+ travel mm : 6.50
		+ Tolerance mm : + 0.10
Check tolerance		
cm3/1000s.	: +- 4.0	
	7 710	GUIDE SLEEVE POSITION
Spreed		OCCUPATION OCCUPATION
opi coa		1
Tolerance		I control lever
cm3/1000 strokes	• 5 N	position degree : -1
CHOY 1000 SCI CACS	. 5.0	Rated speed rpm : 1080
Check tolerance		T Maced Speed (pill : 1000
cm3/1000s.	: 9.0	Rack travel in mm : 16.50
CIID7 10003.	. ,,,,	Tolerance mm : +- 1.30
		T TOTAL THE TABLE 1.50
Rated speed rpm	: 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m	m · 5 10	Rated speed rpm : 700
Tolerance mm	··· : + 0.10	Aneroid pressure
Del. quantity	. += 0.10	
cm3/1000 strokes	: 19.0	+ hPa : 1000 + Del. quantity
Tolerance	. 17.0	cm3/1000 strokes : 198.0
cm3/1000 strokes	. + 35	Tolerance
	: - 2.5	
Check tolerance cm3/1000s.	50	+ cm3/1000 strokes : +- 1.0
	: ← 5.0	Check tolerance
Spreed		+ cm3/1000s. : +- 4.0
Tolerance	. 50	Spreed
cm3/1000 strokes		Tolerance
Check tolerance		cm3/1000 strokes : 5.0
cm3/1000s.	: 7.0	+ Check tolerance
		+ cm3/1000s. : 9.0
(D) CETTING OF "	ALIECTION NUMB	†
(B) SETTING OF I	MARCITON HOWE	†
WITH GOVERNOR		CONTROL LEVED
		CONTROL LEVER
CUINT OF TOP	1/1-1	
GUIDE SLEEVE TRA	VCL	- control lever
Dakad amaad ass	. 1000	position degree : 62.0
Rated speed rpm	: 1080	tolerance degree : +- 4.0
guide sleeve	. 0.70	†
travel mm	: 8.40	control lever
Tolerance mm	: ← 0.10	position degree : 117.0
		tolerance degree : +- 4.0
Rated speed rpm	: 250	†
guide sleeve		+ RATED SPEED
travel mm	: 1.25	├ rack travel mm : 11.45

Rated speed rpm	: 1060
Tolerance 1/min	: +- 5

rack travel mm : 4.00
Rated speed rpm : 1135
Tolerance 1/min : + 15

 $\begin{array}{lll} \text{rack travel mm} & : & 0.50 \\ \text{Tolerance mm} & : & \leftarrow 0.50 \\ \text{Rated speed rpm} & : & 1250 \\ \end{array}$

LOW IDLE

control lever

position degree : 65.0 tolerance degree : + 4.0

control lever

position degree : 8.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. :> 7.00

Testing:

Rated speed rpm : 250 rack travel mm : 5.10 Tolerance mm : + 0.10

Rated speed rpm : 300

TORQUE CONTROL
Rated speed rpm : 700
rack travel mm : 12.45
Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.45
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.75

Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 510 rack travel mm : 2.35 Tolerance mm : + 0.20

Pressure hPa : 100 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 144.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000s. : + 4.0

LOW IDLE

Rated speed rpm : 250 Rack travel in mm : 5.10 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : + 2.5 Check tolerance cm3/1000s.: **←** 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. ; 7.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 13.02.98 : ISO 4113 Test oil

Combination No. : 0 401 846 882

Injection pump

Pump designation : PE6P120A320RS3206-1

EP type number : 0 411 826 775

Governor

Governer design. : RQ750PA783-1

Governer no. : 0 421 801 432

Cust. part No. : 863232 PO5 V. 06/96

Customer-spec. information

Customer : VOLVO-PENTA : TWD 1211 G Motor : 288.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBc diaphragm): 4.2

Test oil inlet

temp. °C : **←** 2.0 Tolerance °C

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0

Overflow quantity

215 min. L/h Tolerance L/h: \leftarrow 20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter:

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm : 3.50 : + 0.05Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

: **←** 0.75 tolerance "NW

Start of delivery mark

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 700

	,	
		guide sleeve travel mm : 10.00
Rack travel in ma	n: 13.80	Tolerance mm : + 0.25
TOTAL GIRC NAME	1	Rated speed rpm : 870
Del. quantity		guide sleeve
cm3/1000 strokes	: 345.0 +	travel mm : 11.50
		Tolerance mm : + 0.50
Tolerance	†	
cm3/1000 strokes	: ← 1.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	I	FOLL LOAD DELIVERY AT FOLL LOAD STOP
cm3/1000s.	: ← 4.0	Rated speed rpm : 700
UND 10000:	1	Aneroid pressure
Spreed	+	hPa : -
•	+	Del. quantity
Tolerance		cm3/1000 strokes : 345.0
cm3/1000 strokes	: 5.0 +	Tolerance
Observation and a management		cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s.	: 9.0	Check tolerance cm3/1000s. : +- 4.0
CMS/ (UUUS.	: 9.0 I	Spreed 4.0
		Tolerance
	 	cm3/1000 strokes : 5.0
Rated speed rpm	: 300	Check tolerance
Del. quantity	+	cm3/1000s. : 9.0
cm3/1000 strokes	: 20.0	
Tolerance	†	
cm3/1000 strokes	: ← 3.0 +	CONTROL LEVER
Check tolerance cm3/1000s.	: ← 6.0	CONTROL LEVER
Spreed	. — 0.0	control lever
Tolerance	1	position degree : 88.0
cm3/1000 strokes	: 5.0	tolerance degree : +- 4.0
Check tolerance	+	_
cm3/1000s.	: 8.0 +	RATED SPEED
	†	rack travel mm : 12.80
(2) 00000110 05 711	115057011 72 1995	Rated speed rpm : 751
(B) SETTING OF IN	DECITON PUMP	Tolerance 1/min : +- 3
WITH GOVERNOR	I	rack travel mm : 4.00
		Rated speed rpm : 791
GUIDE SLEEVE TRAV	/EL +	Tolerance 1/min : + 8
	+	
Rated speed rpm	: 757 +	rack travel mm : 0.50
guide sleeve	†	Tolerance mm : +- 0.50 Rated speed rpm : 850
travel mm Tolerance mm	: 4.06 : + 0.25	Rated speed rpm : 850
TO CELANCE IMP	. + 0.25	ASSEMBLY GOVERNOR SETTING
Rated speed rpm	: 510	MODE DE L'OTERNON DE L'ENG
guide sleeve	+	Rated speed rpm : 748
travel mm	: -8.33	rack travel mm : 12.80
Tolerance mm	: +- 0.25 +	700
	+	Rated speed rpm : 789
Rated speed rpm	: 860 †	Tolerance 1/min : +- 5 rack travel mm : 4.00
guide sleeve travel mm	: 16.96	I GUN LI GYEL IMIH . 4.00
Tolerance mm	: + 0.25	rack travel mm : 0.50
TO COLORIDO MIR	+	Tolerance mm : +- 0.50
Rated speed rpm	: 814	Rated speed rpm : 850
and the second second second	•	

Rated speed rpm	: 749
rack travel mm	: 12.80
Rated speed rpm	: 790
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mma Tolerance mma Rated speed rpma	:
Rated speed rpm	: 750
rack travel mm	: 12.80
Rated speed rpm	: 791
Tolerance 1/min	: ← 5
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: ← 0.50
Rated speed rpm	: 850
Rated speed rom	: 751
rack travel mm	: 12.80
Rated speed rpm	: 792
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel man	: 0.50
Tolerance man	: + 0.50
Rated speed rpm	: 850
Rated speed rpm	: 752
rack travel mm	: 12.80
Rated speed rpm	: 793
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 850
Rated speed rpm	: 753
rack travel mm	: 12.80
Rated speed rpm	: 794
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm Tolerance mm Rated speed rpm	:

:	700
:	13.80
: +	- 0.05
	•

	^ 1	T 10	
	M) L
Ľ	~	10	'L.E

Rated speed rpm Del. quantity	:	300
cm3/1000 strokes	:	20.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	6.0
Spr ee d Tolerance		
cm3/1000 strokes	:	5.0
Check tolerance cm3/1000S.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 321

Injection pump

Pump designation : PE6P110A320RS497 EP type number : 0 411 816 165

Governor

Governer design. : RSV200...1200P1A374

: -16

: 0 421 833 469 Governer no.

Cust. part No. : 848718 P09 v. 06/96

Customer-spec. information Customer : PENTA Motor : TD71A Power KW : 167.0

TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Vibration damper

(Robo diaphragm): 4.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 077

1.5 Inlet press. bar : : +- 0.1 Tolerance bar

Tolerance l/h: + 20.0

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mma : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

Prestroke mm : 3.05 : +- 0.05 Tolerance mm Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.40 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : ← 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

: **←** 0.75 tolerance *NW

Barrel no. : 1

BASIC SETTING

700 Rated speed rpm :

_	†	
Rack travel in mmn : Tolerance mmn :	12.45 + 0.05	FULL LOAD DELIVER
Del. quantity cm3/1000 strokes :	129.0	Rated speed rpm Aneroid pressure hPa Del. quantity
Tolerance cm3/1000 strokes :	+ 1.0	cm3/1000 strokes Tolerance cm3/1000 strokes
Check tolerance cm3/1000s. :	+ 3.0	Check tolerance cm3/1000S. Spreed
Spreed		Tolerance
Tolerance cm3/1000 strokes :	4.0	Check tolerance cm3/1000s.
Check tolerance cm3/1000s. :	7.5	CONTROL LEVER
Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : Spreed	5.30 + 0.10	control lever position degree tolerance degree RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm Tolerance 1/min
Tolerance cm3/1000 strokes : Check tolerance cm3/1000S. :	3.0	rack travel mm Tolerance mm Rated speed rpm
(B) SETTING OF INJECT WITH GOVERNOR	CTION PUMP	LOW IDLE
GUIDE SLEEVE POSITIO	N F	control lever position degree tolerance degree
control lever position degree : Rated speed rpm :	- 3	Setting point w/o
Rack travel in mm :	}	Rated speed rpm rack travel mm Tolerance mm
governor spring	+	Testing:
pre-tension click setting x :	4.30	Rated speed rpm rack travel mm

FULL LOAD DELIVE	RY AT FULL LOAD STOP
Rated speed rpm	: 700
Aneroid pressure hPa	: 1000
Del. quantity	: 1000
cm3/1000 strokes	: 129.0
Tolerance	
cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s.	: +- 3.0
Spreed	
Tolerance	
cm3/1000 strokes Check tolerance	: 4.0
cm3/1000s.	; 7.5
CONTROL LEVER	
control lever	. 110.0
position degree tolerance degree	: 110.0 : + 4.0
toterance degree	• • • • • • • • • • • • • • • • • • • •
RATED SPEED	44 1-
rack travel mm	: 11.45
Rated speed rpm Tolerance 1/min	: 1215 : ← 5
TOTAL BISCE TAMATA	• • •
rack travel mm	: 4.00
Rated speed rpm Tolerance 1/min	: 1265 : +- 15
Toterance Train	;— 15
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1410
LOW IDLE	
control lever	
position degree tolerance degree	: 70.0
tolerance degree	: +- 4.0
Setting point w/	out bumper spring
Rated speed rpm	: 300
rack travel mm	: 4.80
Tolerance mm	: ← 0.10
Testing:	
.cocing.	
Rated speed rpm	: 300
rack travel mm	: 5.30

Tolerance mm	: +- 0.10		
rack travel mm			
Rated speed rpm Tolerance 1/min			
TORQUE CONTROL			
Rated speed rpm rack travel mm	: 700		
rack travel mm Tolerance mm	: 12.45 : + 0.05		
ANEROID/ALTITUDE			
COMPENSATOR TEST			
00-77110			
SETTING			
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500		
rack travel mm	: 12.45		
Tolerance mm	: ← 0.05		
Rated speed rpm	: 500 : -		
Pressure hPa rack travel mm	10.40		
Tolerance mm	: + 0.20		
MEASUREMENT			
Rated speed rpm	: 500		
Pressure hPa	: 340		
rack travel mm	: 10.70		
Tolerance mm	: ← 0.20		
Pressure hPa	: 690		
rack travel mma Tolerance mma	: 12.20 : +- 0.05		
FUEL DELIVERY CHA	RACTERISTICS		
Annuald passess			
Aneroid pressure hPa	: -		
Rated speed rpm	: 700		
Del. quantity cm3/1000 strokes	: 91.0		
Tolerance cm3/1000 strokes	: + 1.0		
Check tolerance	, '- I.U		
cm3/1000s.	: + 3.0		
STARTING FUEL DEL	TVFRY		
ALMITTAG LAFF AFFTAFILL			

Rated speed rpm	:	100
rack travel mm	:	20.50
Tolerance mm	: +	-0.50
Del. quantity		
cm3/1000 strokes	:	210.0
Tolerance		
cm3/1000 strokes	: +	- 15.0
Check tolerance		
cm3/1000S.	: +	- 19.0

LOW IDLE

Rated speed rpm	:	300	
Rack travel in mm Tolerance mm Del. quantity	: : +-	5.30 0.10	
cm3/1000 strokes	:	17.0	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance	: +-	6.0	
Spreed	•	•••	
Tolerance cm3/1000 strokes	:	3.0	
Check tolerance cm3/1000s.	:	6.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 16.02.98 Test oil : 180 4113

Combination No. : 0 401 876 340

Injection pump

Pump designation : PE6P110A320RS499 EP type number : 0 411 816 169

Governor

Governer design. : RSV325...1400P0A374

: -9

Governer no.

: 0 421 833 335

Cust. part No. : 864433-P04 v.10.92

Customer-spec. information Customer : PENTA : TAMD 61 A Motor Power KW : 225.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

: 40 temp. °C Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 9.00 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery mark

: **←** 0.50 Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

	₹
Rack travel in mm : 11.10 Tolerance mm : +- 0.05	FULL LOAD DEL
Del. quantity cm3/1000 strokes : 120.0	Aneroid press hPa Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 stro Tolerance cm3/1000 stro
Check tolerance cm3/1000s. : + 3.0	Check toleran cm3/1000s. Spreed
Spreed	Tolerance cm3/1000 stro
Tolerance cm3/1000 strokes : 4.0	Check toleran cm3/1000s.
Check tolerance cm3/1000S. : 7.5	CONTROL LEVE
Rated speed rpm : 325	control lever
	tolerance deg
Rack travel in mm : 4.20 Tolerance mm : +- 0.10 Del. quantity	control lever
cm3/1000 strokes : 13.0 Tolerance	tolerance deg
cm3/1000 strokes : +- 2.0 Check tolerance	RATED SPEED rack travel m
cm3/1000s. : + 4.0 Spreed	Rated speed r Tolerance 1/m
Tolerance cm3/1000 strokes : 3.0	rack travel m Rated speed r
Check tolerance cm3/1000s. : 6.0	+ Tolerance 1/m
(B) SETTING OF INJECTION PUPP '	rack travel m Tolerance mm Rated speed r
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : - 3 Rated speed rpm : 800	control lever
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	tolerance deg control lever position degr
governor spring pre-tension	tolerance deg
click setting x : 6.00	+ Setting point

FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1000 Aneroid pressure
hPa : 900
Del. quantity cm3/1000 strokes : 120.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : +- 3.0
Spreed
Tolerance cm3/1000 strokes : 4.0
Check tolerance
cm3/1000s. : 7.5
CONTROL LEVER
control lever position degree : 68.0
tolerance degree : +- 4.0
control lever position degree : 118.0
tolerance degree : + 4.0
RATED SPEED
rack travel mm : 10.10
Rated speed rpm : 1455 Tolerance 1/min : +- 5
loterance in will
rack travei mm : 4.00 Rated speed rom : 1540
Rated speed rpm : 1540 Tolerance 1/min : +- 15
rack travel mm : 0.85 Tolerance mm : + 0.55
Rated speed rpm : 1630
LOW IDLE
control lever
position degree : 83.0

control lever
position degree : 83.0
tolerance degree : + 4.0

control lever
position degree : 33.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm rack travel mm	: 3.70	‡	Rated speed rpm Del. quantity	
Tolerance mm	: + 0.10	‡	cm3/1000 strokes Tolerance	
Testing:		1	cm3/1000 strokes Check tolerance	: + 2.0
Rated speed rpm rack travel mm Tolerance mm	: 4.20	 	cm3/1000s.	: +- 5.0
rack travel mm	: 2.00	‡	Aneroid pressure hPa	: ~
Rated speed rpm Tolerance 1/min		‡	Rated speed rpm Del. quantity	
-		‡	cm3/1000 strokes Tolerance	: 62.0
TORQUE CONTROL Rated speed rpm	: 1000	. 🖠	cm3/1000 strokes Check tolerance	
rack travel mm Tolerance mm	: 11.10	<u> </u>	cm3/1000s.	
Rated speed rpm rack travel mm Tolerance mm	: 11.10	 	STARTING FUEL DEL	IVERY
		+	Rated speed rpm	
ANDROID AN TITUDE		 †	rack travel mm	
ANEROID/ALTITUDE COMPENSATOR TEST		Ī	Tolerance mm Del. quantity	: +- 0.30
CONFERENCE TEST		1	cm3/1000 strokes	: 150.0
		+	Tolerance	
SETTING		‡	cm3/1000 strokes Check tolerance	: + 15.0
Rated speed rpm	: 500		cm3/1000s.	: ← 19.0
Pressure hPa	: 900	+		
rack travel mm		†		
Tolerance mm	: + 0.03	Ī		
Rated speed rpm	: 500	1	LOW IDLE	
Pressure hPa		+		
rack travel mm	: 9.00	†	Rated speed rpm	: 325
Tolerance mm	: ← 0.10	†	Rack travel in mm	
MEASUREMENT			Tolerance mm	
TICAUUNG ICITI			Del. quantity	
Rated speed rpm	: 500	+	cm3/1000 strokes	: 13.0
Pressure hPa	: 720		Tolerance cm3/1000 strokes	· + 2 N
rack travel mm	2.10		Check tolerance	
Tolerance mm	: + 0.20	+	cm3/1000s. Spreed	: +- 4.0
Pressure hPa	: 370		Tolerance	
rack travel mm	: 0.25		cm3/1000 strokes	: 3.0
Tolerance mm	: ← 0.05		Check tolerance cm3/1000s.	: 6.0
FUEL DELIVERY CHA	RACTERISTICS	 		
		Ŧ		
Aneroid pressure hPa	: 900	‡	End of test speci	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 754

Injection pump

Pump designation : PE6P110B320RS3152 EP type number : 0 411 816 799

Governor

Governer design. : RSV200...1100P1A659

: 0 421 833 577 Governer no.

Cust. part No. : 3826523-P01 v.08.96

Customer-spec. information

: VOLVO-PENTA Customer

: TD100G Motor Power KW : 203.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

40 temp. °C : + 2.0 Tolerance °C

Overflow valve : 2 417 413 077

1.5 Inlet press. bar : Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar

D10

Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar : + 1.0

Prestroke mm 3.55 : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 10.20 : +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 12.70 + Tolerance mm : + 0.05	Rated speed rpm : 700
Nel questite	Aneroid pressure hPa : 1000
Del. quantity cm3/1000 strokes : 173.0	Del. quantity cm3/1000 strokes : 173.0
Tolerance	Tolerance
cm3/1000 strokes : + 1.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance	cm3/1000s. : +- 4.0
cm3/1000s. : ← 4.0	Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0
•	Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 7.5
Check tolerance	
cm3/1000s. : 7.5	CONTROL LEVER
+	control lever
†	position degree : 62.0
Rated speed rpm : 200	tolerance degree : + 4.0
Rack travel in mm: 4.30	control lever
Tolerance mm : + 0.10 +	position degree : 112.0
Del. quantity	tolerance degree : + 4.0
cm3/1000 strokes : 21.0	RATED SPEED
cm3/1000 strokes : + 2.0	rack travel mm : 11.70
Check tolerance	Rated speed rpm : 1130
cm3/1000s. : + 4.5	Tolerance 1/min : + 5
Spreed + Tolerance +	rack travel mm : 4.00
cm3/1000 strokes : 4.5	Rated speed rpm : 1185
Check tolerance +	Tolerance 1/min : + 15
cm3/1000s. : 7.5	0.05
†	rack travel mm : 0.85 Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP	Tolerance mm : + 0.55 Rated speed rpm : 1300
WITH GOVERNOR	nated speed that to 1900
+	rack travel mm : 4.00
+	Rated speed rpm : 1190
GUIDE SLEEVE POSITION	Tolerance 1/min : ← 15
GOIDE SEELVE POSITION	
control lever	
position degree : -3	LOW IDLE
Rated speed rpm : 800	
Rack travel in mm: 0.50	control lever
Tolerance mm : + 0.20	position degree : 74.0
+	tolerance degree : +- 4.0
governor spring	control lever
pre-tension + click setting x : 5.00 +	position degree : 24.0
Total Courting in the Court of	

D11

tolerance degree	: +- 4.0	<u>†</u>	Rated speed rpm Del. quantity	: 700
Setting point w/o	out bumper spring	·	cm3/1000 strokes Tolerance	: 126.0
Rated speed rpm	: 200	I	cm3/1000 strokes	· + 15
rack travel mm		I	Check tolerance	• • • • • • • • • • • • • • • • • • • •
Tolerance man	: + 0.10	I	cm3/1000s.	: + 4.0
roterance mm	. +- 0.10	I	ChiD/ 10003.	. +- 4.0
Testing:		<u> </u>		
Rated speed rpm	: 200	1	STARTING FUEL DEL	IVERY
rack travel mm		+		
Tolerance mm	: ← 0.10	+	Rated speed rpm	: 100
		+	rack travel mm	: 20.50
rack travel mm	: 2.00	+	Tolerance mm	: +- 0.50
Rated speed rpm		1	Del. quantity	
Tolerance 1/min		. 1	cm3/1000 strokes	· 180 0
TO CEI GITCE TAME!	• • • • • • • • • • • • • • • • • • • •	1	Tolerance	. ,00.0
			cm3/1000 strokes	· + 15 ft
TORQUE CONTROL		T	Check tolerance	15.0
	. 700	†		: + 19.0
Rated speed rpm	: 700 : 12.70	†	cm3/1000s.	; 17.0
rack travel mm		†		
Tolerance mm	: + 0.05	†		
ANEDOTO (AL TITLIDE			LOUITNE	
ANEROID/ALTITUDE		Ť	LOW IDLE	
COMPENSATOR TEST		Ŧ	Rated speed rpm	: 200
		†		/ 70
SETTING		+	Rack travel in mm	
		+	Tolerance mm	: ← 0.10
Rated speed rpm		+	Del. quantity	
Pressure hPa	: 1000	+	cm3/1000 strokes	: 21.0
rack travel mm	: 12.70	+	Tolerance	
Tolerance mm	: +- 0.05	+	cm3/1000 strokes	: +- 2.0
		1	Check tolerance	
Rated speed rpm	: 500	1	cm3/1000s.	: +- 4.5
Pressure hPa	-	1	Spreed	
rack travel mm	: 10.20	1	Tolerance	
Tolerance min	: + 0.10	1	cm3/1000 strokes	: 4.5
OCCIGING INN		1	Check tolerance	
EASUREMENT		I	cm3/1000s.	: 7.5
CHOOKELETAL		Į	5m27 (0000)	
ated speed rpm	: 500	‡		
Pressure hPa	: 275	<u> </u>		
ack travel mm		1		
Tolerance mm		1	End of test speci	fication sheet
OLEI GINE WIN	0.20	I	am or test speci	Truction Succe
Pressure hPa	: 570	\mathbf{I}		
rack travel mm		I		
		I		
Tolerance mm	, 0.05	I		
		‡		
FUEL DELIVERY CHA	RACTERISTICS	‡		
		+		
Aneroid pressure		+		
hPa	: -	+		
		,		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.02.98 : ISO 4113

Combination No. : 0 401 876 755

Injection pump

Pump designation: PE6P120B320RS3187 EP type number : 0 411 826 818

Governor

Governer design. : RSV250...1100P1A653

Governer no. : 0 421 833 571

Cust. part No. : 3826534

: -P01 v. 08.96

Customer-spec. information

: VOLVO-PENTA Customer

Motor

: TD121G

Power KW

: 256.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter: 8.0

x inside diameter :

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : + 1.0

Prestroke mm : 2.45 Tolerance mm : + 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm: 11.20 : **←** 0.50

Tolerance mm

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

: 1 Barrel no.

BASIC SETTING

D13

Rated speed rpm : 700	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 12.50 Tolerance mm : + 0.05	Rated speed rpm : 700
<u> </u>	Aneroid pressure
Del. quantity + cm3/1000 strokes : 210.5 +	hPa : 1200 Del. quantity
Tolerance	cm3/1000 strokes : 210.5 Tolerance
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : + 4.0 Spreed
	Tolerance
Spreed	cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
+	control layon
I	control lever position degree : 58.0
Rated speed rpm : 250	tolerance degree : + 4.0
Rack travel in mm: 4.80	control lever
Tolerance mm : + 0.10	position degree : 108.0
Del. quantity	tolerance degree : + 4.0
cm3/1000 strokes : 27.0	-
Tolerance +	RATED SPEED
cm3/1000 strokes : + 2.5 +	rack travel mm : 11.50
Check tolerance +	Rated speed rpm : 1130
cm3/1000s. : +- 5.0 +-	Tolerance 1/min : + 5
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 5.0	Rated speed rpm : 1185
Check tolerance +	Tolerance 1/min : +- 15
cm3/1000s. : 8.0	
†	rack travel mm : 0.85
(0) 0555510 05 71115057011 71/100	Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1300
WITH GOVERNOR	rack travel mm : 4.00
1	Rated speed rpm : 1190
	Tolerance 1/min : + 15
GUIDE SLEEVE POSITION	
1	
control lever	
position degree : -3	LOW IDLE
Rated speed rpm : 800	
Rack travel in mm: 0.50	control lever
Tolerance mm : + 0.20	position degree : 74.0
1	tolerance degree : +- 4.0
governor spring	
pre-tension +	control lever
click setting x : 4.00 +	position degree : 24.0

Rated speed rpm : 700 tolerance degree : +- 4.0 Del. quantity Setting point w/out bumper spring cm3/1000 strokes : 178.5 Tolerance 250 cm3/1000 strokes : +-1.0 Rated speed rpm rack travel mm 4.30 Check tolerance Tolerance mm : + 0.10cm3/1000s. 4.0 Testina: 250 STARTING FUEL DELIVERY Rated speed rom 4.80 rack travel mm Tolerance mm : + 0.10Rated speed rpm : 100 rack travel mm : 11.20 : +- 0.30 2.00 rack travel mm Tolerance mm Del. quantity Rated speed rpm : 340 cm3/1000 strokes : 155.0 Tolerance 1/min : +-Tolerance cm3/1000 strokes : +- 15.0TORQUE CONTROL Check tolerance cm3/1000s. : + 19.0 700 Rated speed rpm : 12.50 rack travel mm Tolerance mm : + 0.05LOW IDLE ANEROID/ALTITUDE COMPENSATOR TEST 250 Rated speed rpm : 4.80 SETTING Rack travel in mm: Tolerance mm 0.10 500 Del. quantity Rated speed rom cm3/1000 strokes : 27.0 Pressure hPa 1200 12,50 Tolerance rack travel mm : + 0.05cm3/1000 strokes : +- 2.5Tolerance mm Check tolerance 500 cm3/1000s. : +-5.0 Rated speed rpm Spreed Pressure hPa 11.20 rack travel mm Tolerance Tolerance mm : + 0.10cm3/1000 strokes : 5.0 Check tolerance 8.0 cm3/1000s.**MEASUREMENT** Rated speed rpm 500 615 Pressure hPa 11.60 rack travel mm : **←** 0.20 End of test specification sheet Tolerance mm 740 Pressure hPa : 12.25 rack travel mm : +- 0.05 Tolerance nm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa

D15

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.02.98 : ISO 4113

Combination No. : 0 401 876 762

Injection pump

Pump designation : PE6P120B320RS3206 EP type number : 0 411 826 820

Governor

Governer design. : RSV250...900P4A660

Governer no. : 0 421 833 578

Cust. part No. : 3826532 PO1 v.10/96

Customer-spec. information

Customer : VOLVO-PENTA

Motor

: TMD 122 A

Power KW

: 235.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration

damper

(RoBo diaphragm): 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: ← 2.0

Overflow valve : 2 417 413 077

1.5

Inlet press. bar :

Tolerance bar

: **←** 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

: 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

Prestroke mm : 3.55 Tolerance mm : + 0.05 3.55

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 8.60

Tolerance mm : ← 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance

: +- 0.50

Check

tolerance 'NW : **←** 0.75

Barrel no.

: 1

DACTO SETTING	
BASIC SETTING	
Rated speed rpm	: 700
Rack travel in mm Tolerance mm	9.95 : + 0.05
Del. quantity cm3/1000 strokes	: 213.5
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 250
Rack travel in man Tolerance man Del. quantity	: 5.10 : + 0.10
cm3/1000 strokes	: 20.0
Tolerance cm3/1000 strokes	: ← 3.0
Check tolerance cm3/1000s. Spreed	: + 6.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 8.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSI	TION
control lever position degree Rated speed rpm	: - 3 : 800
Rack travel in mm Tolerance mm	: 0.50 : + 0.20

governor spring pre-tension click setting x	: 6.00
FULL LOAD DELIVER	RY AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	
cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 5.0 : 9.0
CONTROL LEVER	
control lever position degree tolerance degree	: 59.0 : + 4.0
control lever position degree tolerance degree	: 109.0 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 8.95 : 930 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 980 : ← 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1130
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 990 : + 15
LOW IDLE	
control lever position degree	: 80.0

tolerance degree : + 4.0 control lever position degree : 30.0 tolerance degree : +-4.0 Setting point w/out bumper spring Rated speed rom rack travel mm 4,60 : + 0.10Tolerance man Testing: Rated speed rom 250 rack travel mm 5.10 Tolerance mm : **←** 0.10 2.00 rack travel mm Rated speed rpm Tolerance 1/min TORQUE CONTROL Rated speed rpm 700 rack travel mm 9.95 : +- 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 700 Pressure hPa 1000 9.95 rack travel mm : **←** 0.05 Tolerance mm Rated speed rpm 700 Pressure hPa rack travel mm 8.60 : + 0.10Tolerance mm **MEASUREMENT** Rated speed rpm 700 : 600 Pressure hPa 0.90 rack travel mm : +- 0.15 Tolerance mm 460 Pressure hPa 0.25 rack travel mm : + 0.05 Tolerance mm

Aneroid pressure Rated speed rpm 700 Del. quantity cm3/1000 strokes : 178.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. 4.0 STARTING FUEL DELIVERY Rated speed rpm rack travel mm : 8.60 Tolerance mm : + 0.50LOW IDLE Rated speed rpm : 250 5.10 Rack travel in mm : Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 20.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 769

Injection pump

Pump designation : PE6P12OA32ORS32O6-2

EP type number : 0 411 826 784

Governor

Governer design. : RSV250...1300P0A374

: -8

Governer no. : 0 421 833 320

Cust. part No. : 864068 P05 v. 04/95

Customer spec. information
Customer : PENTA
Motor : TAMD71 B
Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: + 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 7.20 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : \leftarrow 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance *NW : \leftarrow 0.75

Barrel no. : 1

BASIC SETTING	
Rated speed rpm	: 1000
Rack travel in mm Tolerance mm	: 10.10 : + 0.05
Del. quantity cm3/1000 strokes	: 216.5
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed	
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 250
Kack travel in mon Tolerance mon	: 5.20 : + 0.10
Del. quantity cm3/1000 strokes Tolerance	: 20.0
cm3/1000 strokes Check tolerance	: + 2.5
cm3/1000s. Spreed	: ← 5.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 7.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSI	TION
control lever position degree Rated speed rpm	: - 3 : 800
	: 0.50

+		
+	governor spring	
1	pre-tension	
Ŧ		: 6.00
T	click setting x	: 6.00
+		
+		
+	FULL LOAD DELIVER	Y AT FULL LOAD STOP
1		
<u> </u>	Rated speed rpm	: 1000
Ţ		. 1000
+	Aneroid pressure	4000
+	hPa	: 1200
+	Del. quantity	
1	cm3/1000 strokes	: 216.5
1	Tolerance	
i	cm3/1000 strokes	: +- 1.0
Ţ		. +- 1.0
t	Check tolerance	
+	cm3/1000s.	: +- 4.0
+	Spreed	
1	Tolerance	
1	cm3/1000 strokes	: 5.0
T		. 5.0
†	Check tolerance	0.0
+	cm3/1000s.	: 9.0
+		
1		
1		
1	CONTROL LEVER	
T	COMINOL LEVER	
+		
+	control lever	
+	position degree	: 64.0
1	tolerance degree	: +- 4.0
1		
7	control loven	
T	control lever	44/ 0
†	position degree	: 114.0
+	tolerance degree	: ← 4.0
+		
1	RATED SPEED	
1	rack travel mm	: 9.10
T		: 1340
†	Rated speed rpm	
+	Tolerance 1/min	: +- 5
+		
+	rack travel mm	: 4.00
1	Rated speed rpm	: 1430
1	Tolerance 1/min	: +- 15
T	rocerance mini	• • • • • • • • • • • • • • • • • • • •
Ť		. 0.05
+	rack travel mm	: 0.85
+	Tolerance mm	: ← 0.55
+	Rated speed rpm	: 1530
1	•	
1	rack travel mm	: 4.00
1	Rated speed rpm	: 1440
T		
t	Tolerance 1/min	: +- 15
+		
+		
1		
1		
Ţ	I OLI TNIE	
T	LOW IDLE	
+		
+		
+	control lever	
1	position degree	: 80.0
I	المالانها المالانوني	

tolerance degree : +- 4.0 control lever 30.0 position degree tolerance degree : + 4.0 Setting point w/out bumper spring 250 Rated speed rpm : rack travel mm 4.70 : + 0.10Tolerance and Testing: 250 Rated speed rpm 5.20 rack travel mm : + 0.10Tolerance mm 2.00 rack travel mm 440 Rated speed rpm : Tolerance 1/min : ← TORQUE CONTROL 1000 Rated speed rpm : rack travel mm : 10.10 : **+-** 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm : 1200 Pressure hPa 10.10 rack travel mm : + 0.05 Tolerance mm Rated speed rpm 500 Pressure hPa 7.20 rack travel mm : + 0.10Tolerance mm **MEASUREMENT** 500 Rated speed rpm 780 Pressure hPa rack travel mm 2.60 Tolerance mm : **←** 0.20 350 Pressure hPa 0.25 rack travel mm : + 0.05Tolerance mm

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	700
Del. quantity		
cm3/1000 strokes	:	136.5
Tolerance		
cm3/1000 strokes	: +	- 1.0
Check tolerance		
cm3/1000s.	: +	- 4.0

LOW IDLE	
Rated speed rpm	: 250
Rack travel in mm	: 5.20 : + 0.10 : 20.0 : + 2.5 : + 5.0
Check tolerance cm3/1000s.	: 7.0

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 777

Injection pump

Pump designation : PE6P120B320RS3261 EP type number : 0 411 826 821

Governor

Governer design. : RSV250...1100P0A655

Governer no. : 0 421 833 573

Cust. part No. : 3826513 PO2 v.11.97

Customer-spec. information : PENTA Customer

: TAMD 102 A Motor Power KW : 294.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration

damper

(RoBo diaphragm): 4.1

Test oil inlet

40 temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

3.45 Prestroke mm : +- 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 8.50 : + 0.50 Tolerance mm

Firing order : 1-5- 3- 6- 2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. 1

BASIC SETTING	governor spring pre-tension
ated speed rpm : 700	click setting x : 2.25
	FILL CAR DELTHERY AT SULL COR
ck travel in mm: 12.15	+ FULL LOAD DELIVERY AT FULL LOAD STO
lerance mm : + 0.05	Rated speed rpm : 700
l. quantity	
3/1000 strokes : 260.0	+ Del. quantity
	cm3/1000 strokes : 260.0
olerance i3/1000 strokes : +- 1.0	+ Tolerance + cm3/1000 strokes : +- 1.0
eck tolerance	cm3/1000s. : + 4.0
3/1000s. : ← 4.0	+ Spreed + Tolerance
preed	
	Check tolerance
olerance m3/1000 strokes : 5.0	cm3/1000s. : 9.0
in/ food Strokes : 3.0	-
neck tolerance	2017701 5 /50
3/1000s. : 9.0	CONTROL LEVER
	control lever
	position degree : 47.0
ted speed rpm : 250	tolerance degree : +- 4.0
ck travel in mm : 6.50	control lever
lerance mm : + 0.10	position degree : 97.0
l. quantity 3/1 000 strokes : 23.0	tolerance degree : + 4.0
lerance	RATED SPEED
3/1000 strokes : + 3.0	rack travel mm : 11.10
meck tolerance	+ Rated speed rpm : 1145 + Tolerance 1/min : +- 5
i3/1000S. : ← 6.0 preed	Tolerance 1/min : +- 5
lerance	rack travel mm : 4.00
n3/1000 strokes : 5.0	Rated speed rpm : 1210
eck tolerance 3/1000s. : 7.0	Tolerance 1/min : ← 15
	Track travel mm : 0.85
	Tolerance mm : + 0.55
D) SETTING OF INJECTION PUMP	Rated speed rpm : 1350
TH GOVERNOR	rack travel mm : 4.00
	Rated speed rpm : 1220
TAR OLEME DOOTTON	Tolerance 1/min : + 15
IDE SLEEVE POSITION	‡
	+
ontrol lever Asition degree : - 3	LOW IDLE
sition degree : - 3 rted speed rpm : 800	T LOW IDEE
	+
ck travel in mm: 0.50	control lever
lerance mm : +- 0.20	+ position degree : 73.0

tolerance degree : + 4.0 control lever position degree tolerance degree : +-Setting point w/out bumper spring 250 Rated speed rom 6.00 rack travel mm Tolerance mm : + 0.10Testing: Rated speed rpm : 250 rack travel mm 6.50 Tolerance mm : + 0.102.00 rack travel mm Rated speed rom 400 Tolerance 1/min TORQUE CONTROL 700 Rated speed rpm rack travel mm 12.15 : +- 0.05Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm Pressure hPa 1500 : 12.15 rack travel mm Tolerance mm : +- 0.05500 Rated speed rom Pressure hPa 8.50 rack travel mm : +- 0.15 Tolerance mm **MEASUREMENT** Rated speed rpm 500 900 Pressure hPa 3.20 rack travel mm : +- 0.15Tolerance mm 140 Pressure hPa 0.25 rack travel mm Tolerance mm : +- 0.05

Aneroid pressure
hPa : Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 150.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance
cm3/1000S. : + 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.00 Tolerance mm : +- 1.00

LOW IDLE

Rated speed rpm : 250

Rack travel in mm : 6.50

Tolerance mm : + 0.10

Del. quantity
cm3/1000 strokes : 23.0

Tolerance
cm3/1000 strokes : + 3.0

Check tolerance

Check tolerance cm3/1000S. : ← 6.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 784

Injection pump

Pump designation : PE6P120A320RS3189 EP type number : 0 411 826 759

Governor

Governer design. : RSV650...750P4A421

: -14

: 0 421 833 467 Governer no.

Cust. part No. : 864537 PO9 v.05/96

Customer-spec. information Customer : PENTA : TWD 710 G Motor Power KW : 154.0

TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Vibration damper

(RoBo diaphragm): 4.2

Test oil inlet

40 temo. °C Tolerance °C

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : +- 20.0

Test nozzle holde assembly : 1 688 901 019

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65
Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

: + 0.50Tolerance

Check

: + 0.75tolerance *NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700	t
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 9.30	+
Tolerance mma : +- 0.05	Rated speed rpm : 700
_	+ Aneroid pressure
Del. quantity	† hPa : -
cm3/1000 strokes : 190.0	+ Del. quantity + cm3/1000 strokes : 190.0
Tolongo	+ cm3/1000 strokes : 190.0 + Tolerance
Tolerance cm3/1000 strokes : +- 1.0	cm3/1000 strokes : +- 1.0
the root strokes . 1 1.0	Check tolerance
Check tolerance	+ cm3/1000s. : + 4.0
cm3/1000s. : + 4.0	Spreed
	+ Tolerance
Spreed	+ cm3/1000 strokes : 6.0
	+ Check tolerance
Tolerance	+ cm3/1000s. : 9.0
cm3/1000 strokes : 6.0	†
Charle to Language	Ī
Check tolerance cm3/1000S. : 9.0	CONTROL LEVER
cm5/10005. : 9.0	I CONTROL LEVER
	- control lever
	position degree : 40.0
Rated speed rpm : 650	tolerance degree : + 4.0
	+
Rack travel in mm : 3.20	+ control lever
Tolerance mm : + 0.10	+ position degree : 90.0
Del. quantity	tolerance degree : + 4.0
cm3/1000 strokes : 22.0	†
Tolerance	RATED SPEED
cm3/1000 strokes : + 2.0	rack travel mm : 8.30
Check tolerance	+ Rated speed rpm : 752 + Tolerance 1/min : + 3
cm3/1000s. : + 5.0	1 loterance i/min : +- 3
Spreed Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 5.0	Rated speed rpm : 778
Check tolerance	+ Tolerance 1/min : + 7
cm3/1000s. : 8.0	+
	rack travel mm : 0.85
	+ Tolerance man : +- 0.55
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 900
WITH GOVERNOR	+
	+ ASSEMBLY GOVERNOR SETTING
	Rated speed rpm : 750
CUITOE OL FEUE DOCUTION	+ Rated speed rpm : 750 + rack travel mm : 8.30
GUIDE SLEEVE POSITION	I rack travet han . 0.30
	Rated speed rpm : 776
control lever	+ Tolerance 1/min : + 4
position degree : - 3	rack travel mm : 4.00
Rated speed rpm : 800	+
·	rack travel mm : 0.85
Rack travel in mm: 0.50	+ Tolerance mm : + 0.55
Tolerance mm : +- 0.20	+ Rated speed rpm : 900
•	†
governor spring	Dated aread : 751
pre-tension	Rated speed rpm : 751 + rack travel mm : 8.30
click setting x : 4.00	T PACK CLAVE CIMIL . 0.30
D26	
VZO	

		•
Rated speed rpm	: 777	+ control lever
Tolerance 1/min		position degree : 84.0
rack travel mm		tolerance degree : + 4.0
· don or dvet van		1
rack travel mm	: 0.85	control lever
Tolerance mm		position degree : 34.0
		tolerance degree : +- 4.0
Rated speed rpm	. 900	T toterance degree . T 4.0
		T. T. A. S. C.
Data demand non	. 750	† Testing:
Rated speed rpm		T 20-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
rack travel mm	: 8.30	Rated speed rpm : 650 rack travel mm : 3.20
		rack travel mm : 3.20 Tolerance mm : + 0.10
Rated speed rpm		† Toterance mm : + 0.10
Tolerance 1/min		+
rack travel mm	: 4.00	+ rack travel mm : 2.00
		Rated speed rpm : 660
rack travel mm	: 0.85	+ Tolerance 1/min : +- 30
Tolerance mm	: ← 0.55	
Rated speed rpm	900	+ SET IDLE AUXILIARY SPRING
ridea opeca i pin	, , , ,	
		rack travel mm : 2.00
Rated speed rpm	• 753	THE CLASS HAM . 2.00
rack travel mm	. 930	
rack travet am	: 0.30	TOPOLIE CONTROL
Out of sound non	. 770	+ TORQUE CONTROL
Rated speed rpm		Rated speed rpm : 700
Tolerance 1/min		rack travel mm : 9.30
rack travel mm	: 4.00	+ Tolerance mm : +- 0.05
		†
rack travel mm		+
Tolerance mm	: +- 0.55	+
Rated speed rpm	: 900	+
•		+
		ì
Rated speed rpm	: 754	STARTING FUEL DELIVERY
Rated speed rpm rack travel mm	: 754 : 8.30	STARTING FUEL DELIVERY
Rated speed rpm rack travel mm	: 754 : 8.30	Rated speed rpm : 100
		Rated speed rpm : 100
Rated speed rpm	: 780	Rated speed rpm : 100 rack travel mm : 20.50
Rated speed rpm Tolerance 1/min	: 780 : +- 4	Rated speed rpm : 100
Rated speed rpm	: 780 : +- 4	Rated speed rpm : 100 rack travel mm : 20.50
Rated speed rpm Tolerance 1/min rack travel mm	: 780 : +- 4 : 4.00	Rated speed rpm : 100 rack travel mm : 20.50
Rated speed rpm Tolerance 1/min rack travel mm	: 780 : +- 4 : 4.00 : 0.85	Rated speed rpm : 100 rack travel mm : 20.50
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50
Rated speed rpm Tolerance 1/min rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm	: 780 : +- 4 : 4.00 : 0.85 : ← 0.55 : 900	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm Tolerance 1/min	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm rack travel mm	: 780 : +- 4 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4 : 4.00	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance 1/min rack travel mm	: 780 : +- 4 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4 : 4.00 : 0.85	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance 1/min rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance 1/min rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance 1/min rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0
Rated speed rpm Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm Rated speed rpm rack travel mm Rated speed rpm rack travel mm Tolerance 1/min rack travel mm	: 780 : +- 4 : 4.00 : 0.85 : +- 0.55 : 900 : 755 : 8.30 : 781 : +- 4 : 4.00 : 0.85 : +- 0.55	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 LOW IDLE Rated speed rpm : 650 Rack travel in mm : 3.20 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 794

Injection pump

Pump designation: PE6P120A320RS3206-3 EP type number : 0 411 826 809

Governor

Governer design. : RSV250...1100P1A560

: -2

Governer no. : 0 421 833 471

Cust. part No. : 865560-P08 v. 09/97

Customer-spec. information Customer : PENTA : TAD 730 P Motor : 210.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temo. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5

Overflow quantity

: 260 min. L/h Tolerance l/h: +-20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.6

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05 Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm: \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : **←** 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

1	Aneroid pressure
	hPa : -
Rack travel in mm: 9.45	Del. quantity
Tolerance mm : + 0.05	cm3/1000 strokes : 197.0
	Tolerance
Del. quantity + cm3/1000 strokes : 197.0 +	cm3/1000 strokes : +- 1.0
Cab/1000 strokes: 197.0	Check tolerance cm3/1000s. : +- 4.0
Tolerance	Spreed
cm3/1000 strokes : + 1.0	Tolerance
+	cm3/1000 strokes : 6.0
Check tolerance	Check tolerance
cm3/1000s. : \leftarrow 4.0	cm3/1000s. : 9.0
Spreed	
-	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 6.0	
Charle to Language	control lever
Check tolerance + cm3/1000s. : 9.0 +	position degree : 119.0 tolerance degree : +- 4.0
1.0	toterance degree 4.0
-	RATED SPEED
+	rack travel mm : 8.45
Rated speed rpm : 250 +	Rated speed rpm : 1145
Rack travel in mm: 5.20 +	Tolerance 1/min : +- 5
Tolerance mm : + 0.10	rack travel ma : 4.00
Del. quantity	Rated speed rpm : 1195
cm3/1000 strokes : 20.0	Tolerance 1/min : +- 15
Tolerance	
cm3/1000 strokes : + 3.0 +	rack travel mm : 0.85
Check tolerance + cm3/1000s. : + 6.0	Tolerance mm : +- 0.55 Rated speed rpm : 1300
Spreed	Rated speed roll . 1500
Tolerance	
cm3/1000 strokes : 5.0 +	
Check tolerance	1011 701 7
cm3/1000s. : 8.0	LOW IDLE
I	
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR +	position degree : 82.0
+	tolerance degree : +- 4.0
	Testing:
GUIDE SLEEVE POSITION	resting:
-	Rated speed rpm : 250
+	rack travel mm : 5.20 Tolerance mm : + 0.10
control Lever	Tolerance mm : +- 0.10
position degree : - 3	nock though men . 200
governor spring	rack travel mm : 2.00 Rated speed rpm : 330
pre-tension +	Tolerance 1/min : + 30
click setting x : 6.00	
+	
FILL LOAD DELTUEDY AT FILL LOAD CTOD	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 700
Rated speed rpm : 700	rack travel mm : 9.45 Tolerance mm : +- 0.05
The state of the s	

E02

LOW IDLE

Rated speed rpm	:	250
Rack travel in mm Tolerance mm Del. quantity	: +	5.20 - 0.10
cm3/1000 strokes Tolerance	:	20.0
744000	: +	- 3.0
cm3/1000s. Spreed	: +	- 6.0
Tolerance cm3/1000 strokes	:	5.0
Check tolerance cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.02.98 : ISO 4113

Combination No. : 0 401 876 801

Injection pump

Pump designation : PE6P120A320RS3375 EP type number : 0 411 826 817

Governor .

Governer design. : RSV250...900P0A646

Governer no. : 0 421 833 562

Cust. part No. : 3826154 PO2 v.06.96

Customer-spec. information : PENTA Customer Motor : TWD 710P Power KW : 168.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C 40 Tolerance *C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : Tolerance bar : \leftarrow 0.1

Overflow quantity

min. l/h : 260 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : \leftarrow 1.0

: 2.65 Prestroke mm : + 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 8.20 Tolerance mm : \leftarrow 0.50

Firing order : 1-5- 3- 6- 2-: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 8.15 Tolerance mm: + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP
	Rated speed rpm : 700
Del. quantity	Aneroid pressure
cm3/1000 strokes : 155.0	hPa : -
	Del. quantity
Tolerance -	cm3/1000 strokes : 155.0
cm3/1000 strokes : + 1.0 -	† Tolerance
•	cm3/1000 strokes : + 1.0
Check tolerance -	Check tolerance
cm3/1000s. : + 4.0	cm3/1000s. : +- 4.0
	Spreed
Spreed	Tolerance
opr eed	
	cm3/1000 strokes : 5.0
Tolerance -	Check tolerance
cm3/1000 strokes : 5.0 -	+ cm3/1000s. : 8.0
	+
Check tolerance -	+
cm3/1000s. : 8.0	
	CONTROL LEVER
	CONTINUE ECACIO
	control lever
Datad and James . 250	· · · · · · · · · · · · · · · · · · ·
Rated speed rpm : 250 , -	position degree : 37.0
	tolerance degree : +- 4.0
Rack travel in mm: 5.00 -	†
Tolerance mm : + 0.10	+ control lever
Dei. quantity -	position degree : 87.0
cm3/1000 strokes : 23.0 -	tolerance degree : +- 4.0
Tolerance -	
cm3/1000 strokes : + 3.0	RATED SPEED
Check tolerance -	rack travel mm : 7.15
	Rated speed rpm : 920
Spreed -	Tolerance 1/min : + 5
Tolerance -	†
cm3/1000 strokes : 5.0	rack travel mma : 4.00
Check tolerance -	Rated speed rpm : 955
cm3/1000s. : 8.0	Tolerance 1/min : +- 15
•	
-	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP	Tolerance mm : + 0.55
WITH GOVERNOR	Rated speed rpm : 1050
WITH GOAFINANK	Nated speed (pill : 1050
7	F
7	Ť
	†
GUIDE SLEEVE POSITION	
7	LOW IDLE
-	+
control lever	+
position degree : - 3	control lever
Rated speed rpm : 800	position degree : 71.0
	tolerance degree : + 4.0
Rack travel in mm : 0.50	1 Total diva degi ee 4.0
Tolerance mm : + 0.20	control lever
TO LET CAINE HAM . TO U.LU	
	position degree : 21.0
governor spring	tolerance degree : +- 4.0
pre-tension -	t
click setting x : 2.00	Setting point w/out bumper spring
-	<u>l</u>

Rated speed rpm rack travel man Tolerance man	: +-	250 4.50 0.10
Testing:		

Rated speed rpm : 250 rack travel mm 5.00 Tolerance mm : + 0.10

2.00 rack travel mm 345 Rated speed rpm Tolerance 1/min 30

TORQUE CONTROL

700 Rated speed rpm : rack travel mm 8.15 Tolerance mm : +- 0.05

LOW IDLE

250 Rated speed rpm :

Rack travel in mm: 5.00 Tolerance mm : + 0.10Del. quantity

cm3/1000 strokes : 23.0 Tolerance

cm3/1000 strokes : +-3.0

Check tolerance cm3/1000s. 5.0 Spreed Tolerance

cm3/1000 strokes : 5.0 Check tolerance cm3/1000s.8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 12.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 802

Injection pump

Pump designation : PE6P120A320RS3206-1 EP type number : 0 411 826 775

Governor

Governer design. : RSV250...900P4A550

: -1

Governer no. : 0 421 833 427

Cust. part No. : 866383-P06 V. 06.96

Customer—spec. information Customer : PENTA Motor : TWD1210P

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(ReBo diaphraga) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 160 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.50Tolerance mm : $\leftarrow 0.05$

Check

tolerance mm : +- 0.10

Rack travel in mm : 11.30Tolerance mm : $\leftarrow 0.50$

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

	+
BASIC SETTING	governor spring pre-tension
	click setting x : 4.00
Rated speed rpm : 700	<u> </u>
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in man: 11.35 Tolerance man: + 0.05	+ + Rated speed rpm : 700
TOCCT direct lines	Aneroid pressure
Del. quantity	+ hPa : -
cm3/1000 strokes : 252.0	+ Del. quantity + cm3/1000 strokes : 252.0
Tolerance	Tolerance
cm3/1000 strokes : + 1.0	+ cm3/1000 strokes : +- 1.0
Check tolerance	+ Check tolerance + cm3/1000S. : 4— 4.0
cm3/1000s. : +- 4.0	Spreed
Spreed	+ Tolerance + cm3/1000 strokes : 6.0
opi ceu	+ Check tolerance
Tolerance	- cm3/1000s. : 9.0
cm3/1000 strokes : 6.0	1
Check tolerance	
cm3/1000s. : 9.0	+ CONTROL LEVER
	T control lever
	position degree : 61.0
Rated speed rpm : 300	+ tolerance degree : +- 4.0
Rack travel in mm: 5.10	T control lever
Tolerance mm : +- 0.10	position degree : 111.0
Del. quantity cm3/1000 strokes : 23.0	+ tolerance degree : +- 4.0
Tolerance	RATED SPEED
cm3/1000 strokes : +- 3.0	rack travel mm : 10.35
Check tolerance : + 6.0	+ Rated speed rpm : 930 + Tolerance 1/min : +- 5
Spreed	- Ocerance mann
Tolerance 5.0	rack travel mm : 4.00
cm3/1000 strokes : 5.0 Check tolerance	+ Rated speed rpm : 970 + Tolerance 1/min : +- 15
cm3/1000s. : 8.0	+
	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP	+ Tolerance mm : + 0.55 + Rated speed rpm : 1100
WITH GOVERNOR	1100
	†
GUIDE SLEEVE POSITION	+ LOW IDLE
	İ
control lever	control lever
position degree : -3	<pre>position degree : 80.0</pre>
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm : 0.50	control lever
Tolerance mm : + 0.20	position degree : 30.0

tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm 300 rack travel mm 4.60 Toterance mm : + 0.10

Testing:

300 Rated speed rpm 5.10 rack travel mm : **←** 0.10 Tolerance ma

2.00 rack travel mm Rated speed rpm : 370 Tolerance 1/min : +-30

TORQUE CONTROL

Rated speed rpm 700 11.35 rack travel mm Tolerance mm : **←** 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : **←** 0.50 Del. quantity

cm3/1000 strokes :

292.0 Tolerance

cm3/1000 strokes : \leftarrow 15.0 Check tolerance

cm3/1000s.: **←** 19.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 5.10 : **←** 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : +-3.0 Check tolerance

cm3/1000s. 6.0

Spreed Tolerance

cm3/1000 strokes : 5.0 Check tolerance

: cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 803

Injection pump

Pump designation : PE6P110A320RS3266 EP type number : 0 411 816 777

6overnor

Governer design. : RSV350...1250P0A578

Governer no. : 0 421 833 434

Cust. part No. : 866200-P06 v.10/97

Customer—spec. information
Customer : PENTA
Motor : TWD 630VE
Power KW : 140.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 9.40 Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: +- 0.75

Barrel no. : 1

Rated speed rpm	: 700
Rack travel in mm	
Tolerance mm	: ← 0.05
Del. quantity cm3/1000 strokes	: 133.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 3.0
Spreed	
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance cm3/1000S.	: 8.0
Rated speed rpm	: 350
Rack travel in mm	: 5.50
Toterance mm Det. quantity	: + 0.10
cm3/1000 strokes	: 19.0
Tolerance cm3/1000 strokes	: 2.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed	. +- 5.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 8.0
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSI	TTON
control Lever	_
position degree	: - 5
governor spring pre-tension	

FULL LOAD DELIVERY	AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 700
hPa Del. quantity	: 1200
cm3/1000 strokes Tolerance	: 133.0
cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s. Spreed	: ← 3.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 8.0
(1107 10003)	. 0.0
RATED SPEED rack travel mm	: 11.00
Rated speed rpm	: 1280
Tolerance 1/min	: +- 5
rack travel mm Tolerance mm	: 0.85 : + 0.55
Rated speed rpm	: 1400
rack travel mm Rated speed rpm	: 4.00 : 1345
Tolerance 1/min	: + 15
LOW IDLE	
Setting point w/ou	nt bumper spring
Rated speed rpm rack travel mm	: 350 : 5.00
Tolerance mm	: + 0.10
Testing:	
Rated speed rpm	: 350
rack travel mm Tolerance mm	: 5.50 : +- 0.10

700

: **←** 0.05

12.00

Rated speed rpm : rack travel mm

Tolerance mm

click setting x : 2.50

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	:	5 00
Pressure hPa	:	1200
rack travel mm	:	12.00
Tolerance mm	: ⊀	- 0.05

Rated speed rpm	:	500
Pressure hPa	:	-
rack travel mm	:	9.40
Tolerance mm	: +	0.20

MEASUREMENT

Rated speed rpm : 5

Pressure hPa	:	710
rack travel mm	:	2.30
Tolerance mm	: +	- 0.20

Pressure hPa	:	240
rack travel mm	:	0.25
Tolerance mm	: +-	0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa	:	-
Rated speed rpm	:	700
Del. quantity		

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : **←** 4.0

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	:	100 20.50
Tolerance mm	: +	- 0.50
Del. quantity		400.0
cm3/1000 strokes	:	190.0

Tolerance cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s. : **←** 14.0

LOW IDLE

Rated speed rpm	:	350	
Rack travel in mm Tolerance mm Del. quantity	: : +-	5.50 0.10	
cm3/1000 strokes	:	19.0	
Tolerance cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000s.	: +-	5.0	
Spreed Tolerance			
	:	5.0	
Check tolerance cm3/1000s.	:	8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.02.98

Combination No. : 0 401 876 804

Injection pump

Pump designation : PE6P12OA32ORS3339 EP type number : 0 417 826 812

Governor

Governer design. : RSV325...1400P0A590

Governer no. : 0 421 833 450

Cust. part No. : 3825199-P06 v. 9/95

Customer-spec. information Customer : PENTA : TAMD63 L Motor

Power KW

: 228.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance *C

: +--2.0

Overflow valve : 2 417 413 077

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

x length mm : 600

2.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 31.0

Tolerance bar : +- 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 6.50 Tolerance mm : \leftarrow 0.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 8.90

Tolerance mma : + 0.05

	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 141.0	hPa : 2000 Del. quantity
Tolerance	cm3/1000 strokes : 141.0
cm3/1000 strokes : - 1.0	- cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s. : + 4.0	+ Check tolerance + cm3/1000s. : + 4.0 + Spreed
Spreed	+ Tolerance + cm3/1000 strokes : 5.0 + Check tolerance
Tolerance cm3/1000 strokes : 5.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	CONTROL LEVER
	control lever
Rated speed rpm : 325	+ position degree : 68.0 + tolerance degree : +- 4.0
Rack travel in mm: 3.80 Tolerance mm: + 0.10 Del. quantity	control lever position degree : 118.0 tolerance degree : + 4.0
cm3/1000 strokes : 23.0 Tolerance	+ RATED SPEED
cm3/1000 strokes : + 3.0 Check tolerance	+ rack travel mm : 7.90 + Rated speed rpm : 1470
cm3/1000s. : + 6.0 Spreed	Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : 5.0 Check tolerance	+ rack travel mm : 4.00 + Rated speed rpm : 1530 + Tolerance 1/min : + 15
сљ3/1000s. : 8.0	rack travel mm : 0.85
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : + 0.55 Rated speed rpm : 1630
GUIDE SLEEVE POSITION	LOW IDLE
control Lever	control lever
position degree : - 3 Rated speed rpm : 800	+ position degree : 82.0 + tolerance degree : + 4.0
Rack travel in mm: 0.55 Tolerance mm: + 0.25	control lever position degree : 32.0 tolerance degree : +- 4.0
governor spring pre-tension 5.00	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 3.30 Tolerance mm : + 0.20

Testing:

Rated speed rpm : 1000

Rated speed rpm	:	325
rack travel mm	:	3.80
Tolerance mm	: +-	0.10
rack travel mm	:	2.00

Rated speed rpm : 460 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 8.90 Tolerance mm : + 0.05

Rated speed rpm : 1400 rack travel mm : 8.90 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500 Rated speed rpm : Pressure hPa 2000 8,90 rack travel mm : ← 0.05 Tolerance imm

500 Rated speed rpm : Pressure hPa 6.50 rack travel mm : + 0.10Tolerance mm

MEASUREMENT

500 Rated speed rpm

850 Pressure hPa 2.00 rack travel mm : + 0.15Tolerance mm

Pressure hPa 490 : 0.25 rack travel mm : + 0.05Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 2000 Rated speed rom : 1400

Del. quantity

cm3/1000 strokes : 128.0

Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance cm3/1000s. : +- 6.0

Aneroid pressure

Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance

: +cm3/1000s. 4.0

STARTING FUEL DELIVERY

Rated speed rpm : rack travel mm : 100 12.00 Tolerance m_1 : $\leftarrow 0.25$

LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 3.80 : **←** 0.10 Tolerance mm Del. quantity

cm3/1000 strokes : 23.0 Tolerance

cm3/1000 strokes : \leftarrow 3.0

Check tolerance cm3/1000s.

: +-6.0 Spreed

Tolerance

5.0 cm3/1000 strokes :

Check tolerance

cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.02.98 : ISO 4113

Combination No. : 0 401 876 809

Injection pump

Pump designation : PE6P12OA32ORS3355 EP type number : 0 411 826 814

Governor

Governer design. : RSV325...1200P1A605

Governer no. : 0 421 833 487

Cust. part No. : 3825834 PO5 v.05/96

Customer-spec. information Customer : PENTA : TWD 731 E Motor

Power KW

: 175.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5 : **←** 0.1 Tolerance bar

Tolerance l/h: \leftarrow 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm Tolerance mm : 3.45 : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 7.80 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : **←** 0.50

Check

tolerance 'NW : **←** 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 10.60 Tolerance m : + 0.05

Del. quantity cm3/1000 strokes : 126.0	hPa : 1500 Del. quantity
Tolerance cm3/1000 strokes : + 1.0	cm3/1000 strokes : 126.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 7.0 Check tolerance
Tolerance - cm3/1000 strokes : 7.0	cm3/1000s. : 11.0
Check tolerance cm3/1000s. : 11.0	CONTROL LEVER
-	control lever
Rated speed rpm : 325	position degree : 71.0 tolerance degree : + 4.0
· · · · · · · · · · · · · · · · · · ·	<u>-</u>
Rack travel in mm: 4.40 - Tolerance mm : + 0.10 -	control lever position degree : 121.0
Del. quantity -	tolerance degree : +- 4.0
cm3/1000 strokes : 24.0 - Tolerance -	RATED SPEED
cm3/1000 strokes : + 2.5	rack travel mm : 9.60
Check tolerance - cm3/1000s. : + 5.0 -	Rated speed rpm : 1230 Tolerance 1/min : +- 5
Spreed -	toterance min : +- 3
Tolerance - cm3/1000 strokes : 3.0 -	rack travel mm : 4.00
cm3/1000 strokes : 3.0 - Check tolerance -	Rated speed rpm : 1284 Tolerance 1/min : +- 15
cm3/1000s. : 6.0 -	}
	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1400
GUIDE SLEEVE POSITION -	LOW IDLE
control lever	t control lever
position degree : - 3	position degree : 81.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.85	control lever
Tolerance mm : + 0.55	position degree : 31.0
governor spring	tolerance degree : +- 4.0
pre-tension	Setting point w/out bumper sp
click setting x : 6.00	Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 3.90 Tolerance mm : + 0.10
	+
Rated speed rpm : 1200	+ Testing:

Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: ← 1.0 : ← 4.0
CONTROL LEVER	
control lever position degree tolerance degree	: 71.0 : ← 4.0
control lever position degree tolerance degree	: 121.0 : + 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 9.60 : 1230 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1284 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1400
LOW IDLE	
control lever position degree tolerance degree	: 81.0 : +- 4.0
control lever position degree tolerance degree	
Setting point w/o	ut bumper spring

Rated speed rpm	:	325
rack travel mm	:	4.40
Tolerance mm	: +-	0.10
rack travel mm	:	2.00

Rated speed rpm : Tolerance 1/min : +-

TORQUE CONTROL Rated speed rpm : 1200 rack travel mm 10.60 Tolerance mm : **←** 0.05

Rated speed rpm : 700 10.60 rack travel mm : : + 0.10Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500 Rated speed rpm : 1500 Pressure hPa rack travel mm 10.60 : +- 0.05 Tolerance mm

Rated speed rpm 500 Pressure hPa 7.80 rack travel mm : + 0.10Tolerance mm

MEASUREMENT

Rated speed rpm 500

780 Pressure hPa 2.50 rack travel mm : + 0.15Tolerance mm

Pressure hPa 260 0.25 rack travel mm : **+** 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 Rated speed rpm : 700 Del. quantity

cm3/1000 strokes : 147.0

Tolerance

 $c_{M3}/1000$ strokes : + 3.0

Check tolerance : +- 6.0 cm3/1000s. Spreed Tolerance 7.0 cm3/1000 strokes : Check tolerance 11.0 cm3/1000s.

Aneroid pressure 500 Rated speed rpm : Del. quantity cm3/1000 strokes : 87.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s.

: +-

LOW IDLE

Totarance

Rated speed rom : 325 Rack travel in mm: 4,40 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. : +-5.0 Spreed

cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.02.98 : ISO 4113 Test oil

Combination No. : 0 402 076 795

Injection pump

Pump designation : PES6P120A720RS3369 EP type number : 0 412 026 789

Governor

Governer design. : RSV450...1075P5A631

Governer no. : 0 421 833 538

Cust. part No. :

Customer spec. information

Customer : IVECO-FIAT Motor : 8365.26.584

Power KW : 144.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm: 10.75 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 136.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

Tolerance cm3/1000 strokes : 5.0	Check tolerance cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 9.0	
	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 114.0
Do to Amount to a service 5 00	tolerance degree : + 4.0
Rack travel in mm: 5.90 Tolerance mm : +- 0.10	DATES COURS
Del. quantity	+ RATED SPEED
cm3/1000 strokes : 25.0	rack travel mm : 9.60 Rated speed rpm : 1150
Tolerance	Tolerance 1/min : + 5
cn3/1000 strokes : + 3.0	+ Check
Check tolerance	+ speed 1/min : +- 10
cm3/1000s. : $+6.0$	+
Spreed	rack travel mm : 4.00
Tolerance	+ Rated speed rpm : 1195
cm3/1000 strokes : 8.0	† Tolerance 1/min : + 15
Check tolerance cm3/1000s. : 12.0	7 2001 400001 000
cm3/1000s. : 12.0	+ rack travel mm : 0.85 + Tolerance mm : + 0.55
	Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP	Mateu speed i più : 1400
WITH GOVERNOR	rack travel ma : 4.00
	Rated speed rpm : 1235
	+ Tolerance 1/min : + 15
	+ Check
GUIDE SLEEVE POSITION	+ speed 1/min : ← 20
control lever	‡
position degree : -3	
Rated speed rpm : 800	LOW IDLE
Rack travel in mm: 0.50	Ţ
Tolerance mm : + G.20	control lever
	position degree : 88.0
governor spring	tolerance degree : + 4.0
pre-tension	+
click setting x : 3.50	Setting point w/out bumper spring
	Rated speed rpm : 450
FULL LOAD DELIVERY AT FULL LOAD STOP	+ rack travel mm : 5.40
	Tolerance mm : + 0.10
Rated speed rpm : 1075	+
Aneroid pressure	† Testing:
hPa : 900	†
Del. quantity	Rated speed rpm : 450
cm3/1000 strokes : 136.0	rack travel mm : 5.90
Tolerance cm3/1000 strokes : +- 1.0	Tolerance mm : +- 0.10
Check tolerance	rack travel mm : 2.00
cm3/1000s. $: \leftarrow 4.0$	Rated speed rpm : 650
Spreed	Tolerance 1/min : +- 50
Tolerance	+ 1000101100 17111111
cm3/1000 strokes : 5.0	+
	+ TORQUE CONTROL

Rated speed rpm rack travel mms Tolerance mms Rated speed rpm rack travel mms Tolerance mms Rated speed rpm rack travel mms Tolerance mms ANEROID/ALTITUDE	: 10.75 : ← 0.05 : 700 : 10.80 : ← 0.10
COMPENSATOR TEST	
SETTING	,
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 10.75 : ← 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : − : 9.80 : ← 0.20
MEASUREMENT Rated speed rpm	: 500
Pressure hPa rack travel mma Tolerance mma	: 515 : 10.35 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 900 : 700 : 137.0 : ← 3.0 : ← 6.0
rack travel mm Tolerance mm	: 11.30 : ← 0.20
Aneroid pressure hPa Rated speed rpm	: 500

1.0 4.0 100 9.60 0.30 95.0 15.0
100 9.60 0.30 95.0
100 9.60 0.30 95.0
9.60 0.30 95.0
9.60 0.30 95.0
0.30 95.0
95.0
15.0
· = · =
19.0
45C
~ > 0
5.90
0.10
25.0
3.0
6.0
6.0
6.0 8.0
•

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 12.02.98 : ISO 4113

Combination No. : 0 402 616 803

Injection pump

Pump designation : PE6P130A30CRS7274 EP type number : 0 412 636 824

Governor

Governer design. : Governer no.

Cust. part No. : 866146-P03 v. 10.94

Customer-spec. information

Customer : PENTA

: TAD1230G(GENSET) Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance *C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar 0.1

Tolerance l/h: +-20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mn Tolerance mm : +- 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm : 12.90 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : **←** 0.50

Check

: **←** 0.75 tolerance *NW

: 1 Barrel no.

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm : 12.90

Tolerance mm	: ← 0.10
Del. quantity cm3/1000 strokes	: 400.0
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s.	: + 5.0
Spreed	
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Rated speed rpm	: 300
Rack travel in ma	4.00 : +- 0.30
Del. quantity cm3/1000 strokes Tolerance	: 23.0
cm3/1000 strokes Check tolerance	: + 3.0
cm3/1000s. Spreed	: ← 6.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 8.0
(B) SETTING OF IN WITH GOVERNOR	WECTION PUMP
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 700
hPa	: -
Del. quantity cm3/1000 strokes	: 400.0
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance	
cm3/1000s. Spreed	: ← 5.0

LOW IDLE			
Testing:			
Rated speed rpm rack travel mm Tolerance mm	: : +-	300 4.00 0.30	
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: +-	700 12.90 0.10	
LOW IDLE Rated speed rpm		300	
Rack travel in man Tolerance man Del. quantity	: +-	4.00 0.30	
cm3/1000 strokes Tolerance	•	23.0	
cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed			
Tolerance cm3/1000 strokes	:	5.0	
Tolerance	:	5.0 8.0	

End of test specification sheet

Spreed
Tolerance
cm3/1000 strokes : 8.0

12.0

Check tolerance cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 402 616 804

Injection pump

Pump designation : PE6P12DA30DRS7289 EP type number : 0 412 626 883

Governor

Governer design. : Governer no. :

Cust. part No. : 866145-P04 v. 11/96

Customer—spec. information Customer : PENTA Motor : TAD 1030 G

Power KW : 229.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm): 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h: + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : ← 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance $^{\circ}NW$: + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm Tolerance mm	: 15.50 : + 0.05
Del. quantity cm3/1000 strokes	: 361.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed	
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 10.0
Rated speed rpm	: 300
Rack travel in mm	: 8.00 : + 0.20
Del. quantity cm3/1000 strokes	: 23.0
Tolerance cm3/1000 strokes	: ← 3.0
Check tolerance cm3/1000s.	: + 6.0
Spreed Tolerance	
cm3/1000 strokes	: 7.0
Check tolerance cm3/1000s.	: 11.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
FULL LOAD DELIVERY	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 700
hPa Del. quantity	: -
cm3/1000 strokes	: 361.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed	. TO 4.0
Tolerance cm3/1000 strokes	: 6.0

Check tolerance cm3/1000s.	:	10.0	
LOW IDLE			
Testing:			
Rated speed rpm rack travel mm Tolerance mm	: +-	300 8.00 - 0.20	
TORQUE CONTROL Rated speed rpw rack travel mm Tolerance mm	: +-	700 15.50 - 0.05	
LOW IDLE	•		
Rated speed rpm	:	300	
Deals Assessed Street	•	8.00	
Rack travel in mm Tolerance mm	: +-	- 0.20	
Tolerance mm Del. quantity cm3/1000 strokes			
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: +-	- 0.20	
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +-	23.0	
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +-	- 0.20 23.0 - 3.0	
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: +-	- 0.20 23.0 - 3.0 - 6.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 16.02.98

Test oil

: ISO 4113

Combination No. : 0 402 646 632

Injection pump

Fump designation : PE6P12GA32GR87233

: -11

EP type number : 0 412 626 919

Governor

Governer design. : RQV300...1300PA1094K

Governer no. : 0 421 815 364

Cust. part No. : 866560 P03 v. 4/95

Customer-spec. information Customer : PENTA

Motor

: TAMD 72 A

Power KW

: 316.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration:

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Tolerance l/h: + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm Prestroke mm : 3.35
Tolerance mm : + 0.05

Check

tolerance mm

: **←** 0.10

Rack travel in mm : 7.60 Tolerance mm : + 0.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: **←** 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance °NW : ← 0.75

Barrel no. : 1

		† Tolerance mm : +- 0.25
BASIC SETTING		Rated speed rpm : 899 Guide sleeve
Rated speed rpm	: 1300	travel mm : 6.99
Rack travel in mm		Rated speed rpm : 387
Tolerance mm	: + 0.05	guide sleeve : 2.54
Del. quantity cm3/1000 strokes	: 250.0	+ Tolerance mm : + 0.25 + Rated speed rpm : 437
Tolerance		guide sleeve
cm3/1000 strokes	: ÷- 1.0	+ travel mm : 3.05 + Tolerance mm : + 0.25
Check tolerance		Total alice and
cm3/1000s.	: ← 4.0	+ Rated speed rpm : 530 - guide sleeve
Spreed		travel mm : 4.12
Tolerance		Tolerance mm : + 0.25
cm3/1000 strokes	: 8.0	Rated speed rpm : 1640
Check tolerance		+ guide sleeve + travel mm : 13.50
cm3/1000s.	: 11.0	Tolerance mm : + 0.50
Rated speed rpm	: 300	GUIDE SLEEVE POSITION
Rack travel in mm		control lever
Tolerance mm	: ← 0.10	→ position degree : -1
Del. quantity cm3/1000 strokes	: 18.0	Rated speed rpm : 1500
Tolerance	. 10.0	Rack travel in mm: 9.00
cm3/1000 strokes	: ← 3.0	+ Tolerance mm : + 3.00
Check tolerance		†
cm3/1000s. Spreed	: ← 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance cm3/1000 strokes	. 50	+ Rated speed rpm : 1300
Check tolerance	٠. ٠	Aneroid pressure
cm3/1000s.	: 8.0	hPa : 2400 Del. quantity
(B) SETTING OF IN	UECTION PUMP	cm3/1000 strokes : 250.0 Tolerance
WITH GOVERNOR		cm3/1000 strokes : +- 1.0 Check tolerance
GUIDE SLEEVE TRAV	EL.	
Rated speed rpm guide sleeve	: 1345	- cm3/1000 strokes : 8.0 - Check tolerance
travel mm	: 10.25	+ cm3/1900s. : 11.0
Tolerance mm	: + 0.25	<u> </u>
Rated speed rpm	: 300	CONTROLLEUED
guide sleeve travel mm	: 1.65	+ CONTROL LEVER +

control lever position degree tolerance degree	: 66.0 : + 4.0
control lever position degree tolerance degree	: 120.0 : ← 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 1340
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1495 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1600
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : + 4.0
control lever position degree tolerance degree	: 20.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 6.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.90 : + 0.10
Rated speed rpm	: 400
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1300 : 13.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.60 : +- 0.10

Rated speed rpm rack travel mm Tolerance mm	: 1000 : 12.70 : +- 0.20
Rated speed rpm rack travel mm Tolerance mm	: 1200 : 13.70 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1300 : 2400 : 13.85 : ← 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1309 : - : 7.60 : + 0.10
MEASUREMENT	
Rated speed rpm	: 1300
Pressure hPa rack travel mm Tolerance mm	: 1580 : 5.90 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 370 : 0.25 : ← 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 2400 : 800
cm3/1000 strokes Tolerance	: 236.0
cm3/1000 strokes Check tolerance	: 3.0
cm3/1000s. Spreed	: + 5.0
Tolerance cm3/1000 strokes	: 10.0
Check tolerance cm3/1000s.	: 14.0
Aneroid pressure	: 2400

Rated speed rpm	: 70	UU
rack travel mm	: 1	2.70
Tolerance mm	: +-	0.20
Del. quantity		
cm3/1000 strokes	: 2	44.0
Tolerance		
cm3/1000 strokes	: +-	4.0
Check tolerance		
cm3/1000s.	: +-	6.0
Aneroid pressure		

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 124.0
Tolerance
cm3/1000 strokes : + 1.0
Check tolerance

LOW IDLE

cm3/1000s.

300 Rated speed rpm 5.90 Rack travel in mm: Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 48.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 5.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s.8.0

4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 18.12.97

Test oil

: ISO 4113

Combination No. : 0 402 646 644

Injection pump

Pump designation : PE6P120A320RS7319 EP type number : 0 412 626 914

Governor

Governer design. : RQV300...1400PA1124

Governer no.

: 0 421 814 086

Cust. part No.

: 866633 P04 08.96

Customer-spec. information

Customer : PENTA

Motor

: TAMD 63 P

Power KW

: 265.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: **←** 2.0

Overflow valve

: 2 417 413 077

Inlet press. bar :

1.5

Tolerance bar

: + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

F02

x inside diameter:

3.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.65

Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : \leftarrow 1.50

Firing order

: 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: + - 0.50Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery mark

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

1000

Rack travel in mm : 12.90

Tolerance mm : + 0.05

Not arrentific	
Del. quantity	Tolerance mm : + 0.25
cm3/1000 strokes : 241.0	Data di sua sidi sura di 100
Talanaa	Rated speed rpm : 498
Tolerance + 1.0 + 1.0	guide sleeve
clib/1000 strokes : += 1.0	travel mm : 3.20 Tolerance mm : + 0.25
Check tolerance	roterance num : + 0.25
cm3/1000s. : +- 4.0	Rated speed rpm : 690
I	guide sleeve
Spreed	travel mm : 3.68
\$ P. 555	Tolerance mm : +- 0.25
Tolerance	
cm3/1000 strokes : 8.0	Rated speed rpm : 1638
1	guide sleeve
Check tolerance	travel mm : 10.00
cm3/1000s. : 11.0 +	Tolerance mm : + 0.25
+	Rated speed rpm : 1760
 +	guide sleeve
Rated speed rpm : 300 +	travel mm : 11.50
†	Tolerance mm : $+$ 0.50
Rack travel in mm: 5.40	
Tolerance num : + 0.10	CUTAE OF PETER PROTECTION
Del. quantity + cm3/1000 strokes : 23.0 +	GUIDE SLEEVE POSITION
cm3/1000 strokes : 23.0 + Tolerance	
cm3/1000 strokes : + 3.0 +	control lever
Check tolerance	position degree : - 1
cm3/1000s. : +- 5.0 +	Rated speed rpm : 1640
Spreed	nated speed (pill . 1040
Tolerance	Rack travel in mm : 9.00
cm3/1000 strokes : 5.0	Tolerance mm : +- 3.00
Check tolerance	10tel at 100 limit
cm3/1000s. : 8.0	
+	FULL LOAD DELIVERY AT FULL LOAD STOP
}	
(a) and the air still and the still are the	
(B) SETTING OF INJECTION PUMP +	Rated speed rpm : 1000
(B) SETTING OF INJECTION PUMP +	Aneroid pressure
WITH GOVERNOR	Aneroid pressure hPa : 2000 Del. quantity
	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : + 0.25	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : + 0.25 Rated speed rpm : 170	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : + 0.25	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : + 0.25 Rated speed rpm : 170 guide sleeve	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : 40.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : 40.25 Rated speed rpm : 1170 guide sleeve travel mm : 5.67 Tolerance mm : 5.67 Tolerance mm : 40.25	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever position degree : 54.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : + 0.25 Rated speed rpm : 1170 guide sleeve travel mm : 5.67 Tolerance mm : + 0.25 Rated speed rpm : 448	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : + 0.25 Rated speed rpm : 1170 guide sleeve travel mm : 5.67 Tolerance mm : + 0.25 Rated speed rpm : 448 guide sleeve	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever position degree : 54.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1456 guide sleeve travel mm : 7.69 Tolerance mm : + 0.25 Rated speed rpm : 300 guide sleeve travel mm : 1.24 Tolerance mm : + 0.25 Rated speed rpm : 1170 guide sleeve travel mm : 5.67 Tolerance mm : + 0.25 Rated speed rpm : 448	Aneroid pressure hPa : 2000 Del. quantity cm3/1000 strokes : 241.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever position degree : 54.0

control lever position degree tolerance degree	: 119.0 : ← 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 11.90 : 1455 : ← 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1585 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1650
LOW IDLE	
control lever position degree tolerance degree	: 82.0 : + 4.0
control lever position degree tolerance degree	: 17.0 : ← 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 6.80
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.40 : + 0.10
Rated speed rpm	: 350
TORQUE CONTROL	
Rated speed rpm rack travel mm	: 1000 : 12.90
Tolerance mm	: 12.90 : + 0.05
Rated speed rpm rack travel mm	: 1400 : 12.90
Tolerance mm	: + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 2000 : 12.90 : + 0.05	
Rated speed rpm Pressure hPa rack travel mm Tolerance mma	: 500 : - : 8.20 : + 0.10	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 1300 : 4.20 : + 0.20	
Pressure hPa rack travel mm Tolerance mm	: 430 : 0.25 : +- 0.05	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm Del. quantity	: 2000 : 1400	
cm3/1000 strokes Tolerance	: 230.0	
cm3/1000 strokes Check tolerance	: 3.0	
cm3/1000s. Spreed	: ← 5.0	
Tolerance cm3/1000 strokes	: 10.0	
Check tolerance cm3/1000s.	: 14.0	
Aneroid pressure		

hPa

Tolerance

Rated speed rpm : Del. quantity cm3/1000 strokes :

Check tolerance cm3/1000s.

cm3/1000 strokes : +-

500

84.0

1.0

: **←** 4.0

LOW IDLE

Rated speed rpm	:		300	
	-	+-	5.40 0.10	
Del. quantity cm3/1000 strokes Tolerance	:		23.0	
cm3/1000 strokes Check tolerance	:	+-	3.0	
cm3/1000s. Spreed	:	+-	5.0	
Tolerance cm3/1000 strokes Check tolerance	:		5.0	
cm3/1000s.	:		8.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 12.02.98 : ISO 4113

Combination No. : 0 402 646 657

Injection pump

Pump designation : PE6P130A320RS7368 EP type number : 0 412 636 836

Governor

Governer design. : RQV250...1125PA1210K

Governer no. : 0 421 815 460

Cust. part No. : 866737-P05 v. 06.96

Customer-spec. information Customer : PENTA

Motor

Power KW : 426.0

: TAMD 122 P

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration

damper

(RoBo diaphragm) : 4.1

Test oil inlet

temp. °C : 4
Tolerance °C : +

2.0

Overflow valve : 2 417 413 077

Inlet press. bar :

2.5

Tolerance bar : + 0.1

Tolerance l/h: + 20.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

: 208.5

F06

Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter:

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 7.00

Tolerance mm: \leftarrow 0.50

Firing order

: 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: +- 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance *NW

: **←** 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1125	+ tr		6.36 +- 0.25
Rack travel in mm : 11.40 Tolerance mm : + 0.05	+ gu	ride sleeve	275 2.04
Del. quantity cm3/1000 strokes : 313.0	† To	olerance mm :	+- 0.25
Tolerance cm3/1000 strokes : + 1.5	+ gu + tr	uide sleeve ravel mmn :	325 2.73
Check tolerance cm3/1000s. : +- 5.0	Ra	ated speed rpm :	← 0.25 430
Spreed	+ tr	uide sleeve ravel mm : plerance mm :	3.61 ← 0.25
Tolerance cm3/1000 strokes : 9.0	 	ated speed rpm : uide sleeve	
Check tolerance cm3/1000s. : 13.0		ravet mm : pterance mm :	13.50 +- 0.50
Rated speed rpm : 260	+ GU	JIDE SLEEVE POSITIO	N
Rack travel in mm: 4.70 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 20.0 Tolerance cm3/1000 strokes: + 3.0	+ pc + Re + Ra	ated speed rpm :	- 1 1284 10.50 +- 2.00
Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance		JLL LOAD DELIVERY A	T FULL LOAD STOP
cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. : 11.0	+ An	rted speed rpm : neroid pressure rea : el. quantity	1125 2000
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CM CM CM CM CM CM CM CM CM CM CM CM CM C	3/1000 strokes : plerance 3/1000 strokes : neck tolerance	
GUIDE SLEEVE TRAVEL	+ Sp	preed	+- 5.0
Rated speed rpm : 1176 guide sleeve travel mm : 10.15 Tolerance mm : + 0.25	cm + ch	olerance 3/1000 strokes : neck tolerance 3/1000S. :	9.0 13.0
Rated speed rpm : 260 guide sleeve travel mm : 1.69	+	NTROL LEVER	
Tolerance mm : + 0.25 Rated speed rpm : 782	+ po	ontrol lever osition degree : olerance degree :	64.0 +- 4.0

control lever position degree tolerance degree	: 118.0 : ← 4.0
RATED SPEED rack travel mon Rated speed rpm Tolerance 1/min	: 10.40 : 1165 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1245 : +- 15
rack travel mm Tolerance mm Rated speed rpm	
LOW IDLE	
control lever position degree tolerance degree	: 71.0 : + 4.0
control lever position degree tolerance degree	: 18.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT mm min.	: > 5.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm	: 330
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1125 : 11.40 : + 0.05
Rated speed rpm rack travel mma Tolerance mma	: 700 : 10.30 : ← 0.20
Rated speed rpm	: 500

ANEROID/ALTITUDE	Ē
COMPENSATOR TEST	Γ

SETTING

Rated speed rpm	:	1125
Pressure hPa	:	2000
rack travel mm	:	11.40
Tolerance mm	: •	← 0.05

Rated speed rpm	:	<i>50</i> 0
Pressure hPa	:	-
rack travel mm	:	7.00
Tolerance mm	: +	- 0.20

MEASUREMENT

Rated	speed	Lbu	:	1125
D		_		4200

Pressure hPa : 1200 rack travel mm : 3.90 Tolerance mm : + 0.20

Pressure hPa : 150 rack travel mm : 0.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

		
Aneroid pressure hPa Rated speed rpm	: 2000 : 700	-
Del. quantity cm3/1000 strokes Tolerance	: 301.0	
cm3/1000 strokes	: +- 3.0	
Check tolerance cm3/1000S. Spreed Tolerance	: + 6.0	
cm3/1000 strokes	: 10.0	
Check tolerance cm3/1000s.	: 14.0	

Aneroid pressure	: 2000
Rated speed rpm	: 500
rack travel mm	: 9.50
Tolerance mm	: ← 0.15
Del. quantity	
cm3/1000 strokes	: 280.0
Tolerance	
cm3/1000 strokes	: ← 3.0

Check tolerance cm3/1000s. 6.0 Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000s.5.0 STARTING FUEL DELIVERY 100 Rated speed rpm 7.00 rack travel mm Tolerance mm : **←** 0.20 Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : \leftarrow 15.0 Check tolerance cm3/1000s. : +- 20.0 LOW IDLE Rated speed rpm : 260 Rack travel in mm: 4.70 Tolerance mm : + 0.10Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 7.0 Check tolerance cm3/1000s. 11.0 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13,02,98 Test oil : ISO 4113

Combination No. : 0 402 646 850

Injection pump

Pump designation: PE6P130A720RS7140 : 0 412 636 830 EP type number

Governor

Governer design. : RQV250...900PA869 Governer no. : 0 421 813 634

: 849441 PO? Cust. part No.

Customer-spec. information : PENTA Customer : TID 162 AP Motor Power KW : 357.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temo. °C Tolerance °C : + 2.0

: 2 417 413 077 Overflow valve

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.65 : + - 0.05Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.30 Tolerance mm : \leftarrow 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 10.30

Tolerance mm : **←** 0.05

	+ guide sleeve
Del. quantity cm3/1000 strokes : 293.0	travel mm : 4.70 + Tolerance mm : + 0.30
	1
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 985 guide sleeve
CASTIONS STORES . T. T.O	+ travel mm : 8.30
Check tolerance	
cm3/1000S. : +- 5.0	Tolerance mm : + 0.20
Spreed	GUIDE SLEEVE POSITION
opi ced	T GOIDE SEELVE FOSTITON
Tolerance	1
cm3/1000 strokes : 6.0	+ control lever
5.00 Serones . 5.0	+ position degree : - 1
Check tolerance	
	+ Rated speed rpm : 980
cm3/1000s. : 9.0	
	+ Rack travel in mm : 16.50
	+ Tolerance mm : +- 1.30
	+
Rarted speed rpm : 250	+
	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 3.80	+
Tolerance mm : + 0.10	+ Rated speed rpm : 700
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 20.0	+ hPa : -
Tolerance	+ Del. quantity
cm3/1000 strokes : +- 3.0	+ cm3/1000 strokes : 293.J
	1 .
Check tolerance	+ Tolerance
cm3/1000s. : +- 6.0	+ cm3/1000 strokes : + 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : + 5.0
cm3/1000 strokes : 5.0	+ Spreed
Check tolerance	+ Tolerance
cm3/1000s. : 8.0	+ cm3/1000 strokes : 6.0
	+ Check tolerance
	+ cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+
	+ CONTROL LEVER
GUIDE SLEEVE TRAVEL	
COURT TEMPORE TO THE PERSON OF	- control lever
Rated speed rpm : 925	position degree : 59.0
guide steeve	tolerance degree : +- 4.0
travel mm : 7.40	T coterance degree : 4.0
Tolerance mm : + 0.10	+ control lever
Toterance min : Total	
5-4-dd 250	+ position degree : 115.0
Rated speed rpm : 250	+ tolerance degree : + 4.0
guide sleeve	†
travel mm : 1.10	+ RATED SPEED
Tolerance mm : + 0.20	+ rack travel mm : 9.30
	+ Rated speed rpm : 925
Rated speed rpm : 350	+ Tolerance 1/min : + 5
guide sleeve	+
travel mm : 2.30	+ rack travel mm : 4.00
Tolerance mm : + 0.30	+ Rated speed rpm : 985
	+ Tolerance 1/min : + 15
Rated speed rpm : 700	1
Harana Amara Amara a Barana a	rack travel mm : 0.50
	1 TOOK OF GROCE HAIR . U.SU

Toterance no : ← 0.50 Rated speed rpm : 1100

LOW IDLE

control lever

position degree : 67.0 tolerance degree : + 4.0

control lever

position degree : 10.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm 100

CRT mm min. : > 5.30

Testing:

250 Rated speed rpm 3.80 rack travel mm Tolerance mm : + 0.10

305 Rated speed rpm :

TORQUE CONTROL

Rated speed rpm : 700 10.30 rack travel mm Tolerance mm : **←** 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm 10.30 Del. quantity

cm3/1000 strokes : 240.0

Tolerance

cm3/1000 strokes : \leftarrow 20.0

LOW IDLE

250 Rated speed rpm :

Rack travel in mm: 3.80 Tolerance $m_{\rm m}$: $\leftarrow 0.10$ Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. ; +-6.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 8.0

End of test specification sheet

F12

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.02.98 Test oil : ISO 4113

Combination No. : 0 402 646 967

Injection pump

Pump designation : PE6P130A720RS7150

: -10

EP type number : 0 412 636 831

6overnor

Governer design. : RQV250...900PA881-1

Governer no. : 0 421 813 982

Cust. part No. : 864988-P05 v.09.97

Customer-spec. information

Customer : PENTA

Motor : TAMD 162 C,AX

Power KW : 375.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm): 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Tolerance l/h: + 20.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5

Tolerance bar $: \leftarrow 1.5$

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 9.40 Tolerance mm: : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : \leftarrow 0.50

Check

tolerance $^{\circ}NW$: \leftarrow 0.75

Barrel no. : 1

	† Tolerance mm : +- 0.20
BASIC SETTING	Rated speed rpm : 350
	guide sleeve
Rated speed rpm : 700	+ travel mm : 2.30
	Tolerance mm : +- 0.30
Rack travel in mm: 11.60	Rated speed rpm : 700
Tolerance mm : + 0.05	+ guide sleeve
	+ travel mm : 4.80
Del. quantity	+ Tolerance mm : + 0.30
cm3/1000 strokes : 336.0	+
	+ Rated speed rpm : 985
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.5	+ travel mm : 8.60
	+ Tolerance mm : + 0.20
Check tolerance	†
cm3/1000s. : $+$ 5.0	CUITAGE OF COLUMN PARTITION
Consod	+ GUIDE SLEEVE POSITION
Spreed	†
Tolerance	control lever
cm3/1000 strokes : 6.0	
Cho/ 1000 Strokes : 0.0	+ position degree : -1 + Rated speed rpm : 980
Check tolerance	T Rated Speed (bin : 900
cm3/1000s. : 10.0	Rack travel in mm: 16.50
CH57 10005 10.0	Tolerance mm : + 1.30
The second secon	T local differential 1.10
Rated speed rpm : 250	+ FULL LOAD DELIVERY AT FULL LOAD STOP
- 1	†
Rack travel in mm: 4.20	Rated speed rpm : 700
Tolerance mm : +- 0.10	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 19.5	+ hPa : 1000
Tolerance	+ Del. quantity + cm3/1000 strokes : 336.0
cm3/1000 strokes : +- 2.5	Tolerance : 536.0
Check tolerance	+ cm3/1000 strokes : + 1.5
cm3/1000s. : +- 5.0	Check tolerance
Spreed	+ cm3/1000s. : +- 5.0
Tolerance	Spreed
cm3/1000 strokes : 5.0	+ Tolerance
Check tolerance	+ cm3/1000 strokes : 6.0
cm3/1000s. : 8.0	+ Check tolerance
	+ cm3/1000s. : 10.0
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	
	+ CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	+ control lever
	+ position degree : 118.0
Rated speed rpm : 925	+ tolerance degree : +- 4.0
guide sleeve	†
travel mm : 7.70	+ RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 10.60
B.A.d.m. ad ann	+ Rated speed rpm : 930
Rated speed rpm : 250	Tolerance 1/min : + 5
guide sleeve	Total Americal and 1 (20)
travel mm : 1.10	+ rack travel mm : 4.00

Rated speed rom : 1000 Tolerance 1/min : +- 15

rack travel mm : 0.5
Tolerance mm : + 0.5
Rated speed rpm : 1100 0.50 : **←** 0.50

LOW IDLE

control lever

position degree : 67.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 150

CRT mm min. : > 6.00

Testing:

Rated speed rpm 250 rack travel mm 4.20 Tolerance mm : + 0.10

Rated speed rpm : 300

TORQUE CONTROL

700 Rated speed rpm : rack travel mm 11.60 : **←** 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 1000 Pressure hPa 11.60 rack travel mm : +- 0.05 Tolerance mm

500 Rated speed rpm Pressure hPa 9.40 rack travel mm Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

400 Pressure hPa rack travel mm : 9.80 Tolerance mm : **←** 0.20

Pressure hPa 680 11.30 rack travel mm : +- 0.05 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

700 Rated speed rpm : Del. quantity

cm3/1000 strokes : 228.0

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +- 5.0

LOW IDLE

Rated speed rpm : 250

Rack travel in mm: 4.20 Tolerance mm : \leftarrow 0.10 Del. quantity cm3/1000 strokes : 19.5

Tolerance

cm3/1000 strokes : \leftarrow 2.5 Check tolerance

cm3/1000s. : +-5.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 402 666 803

Injection pump

Pump designation : PE6P120A320/3LS7883

EP type number : 0 412 626 938

Governor

Governer design. : RSV600...1050P0A592

Governer no. : 0 421 833 458

Cust. part No. : 0220743802

Customer-spec. information Customer : M8-NFZ Motor : OM 401 LA Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0 temp. °C 40

Overflow valve : 1 417 413 047

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. L/h : 120 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 6-3-5-2-4-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : **←** 0.10

Check

tolerance 'NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 13.30 Tolerance mm : \leftarrow 0.05

	+ Aneroid pressure
Del. quantity cm3/1000 strokes : 232.0	hPa : - Del. quantity cm3/1000 strokes : 232.0
Tolerance cm3/1000 strokes : + 1.0	Tolerance + cm3/1000 strokes : + 1.0
Check tolerance : + 4.0	+ Check tolerance - cm3/1000s. : + 4.0
Spreed	+ Spreed + Tolerance + cm3/1000 strokes : 6.0
Tolerance	+ Check tolerance + cm3/1000S. : 9.0
cm3/1000 strokes : 6.0	‡
Check tolerance : 9.0	CONTROL LEVER
	control lever position degree : 88.0
Rated speed rpm : 600	tolerance degree : + 4.0
Rack travel in mm : 3.80 Tolerance mm : +- 0.10 Del. quantity	‡
cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +- 3.0	LOW IDLE
Check tolerance cm3/1000s. : + 6.0	control lever
Spreed Tolerance cm3/1000 strokes : 8.0	position degree : 74.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s. : 12.0	Setting point w/out bumper spring
	Rated speed rpm : 100
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+ CRT mm min. : > 19.50
	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 600 rack travel mm : 3.80 Tolerance mm : 4- 0.10
control lever position degree : -3 Rated speed rpm : 800	rack travel mm : 2.00 Rated speed rpm : 630 Tolerance 1/min : + 30
Rack travel in mm : 0.50 Tolerance mm : + 0.20	SET IDLE AUXILIARY SPRING
governor spring	rack travel mm : 2.00
pre-tension click setting x : 1.00	TORQUE CONTROL Rated speed rpm : 1030 rack travel mm : 13.30
FULL LOAD DELIVERY AT FULL LOAD STOP	+ rack travel mm : 13.30 + Tolerance mm : + 0.05
Rated speed rpm : 1030	Rated speed rpm : 700

rack travel am : 13.30 Tolerance no : + 0.10

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 700 Rated speed rpm

Del. quantity

234.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : + 19.0

LOW IDLE

600 Rated speed rpm :

3.80 Rack travel in mm : Tolerance mm : **←** 0.10

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance cm3/1000s.

6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

12.0 cm3/1000s.

F18

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.03.97 Test oil : ISO 4113

Combination No. : 0 402 846 C61

Injection pump

Pump designation: PE6P120A320RS8024-1 EP type number : 0 412 826 029

Governor

Governer design. : RQV250...1100PA1072

: --3K

: 0 421 815 979 Governer no.

Cust. part No. : 477950-P05 v. 11.95

Customer-spec. information

Customer : VOLVO-TRUCK

Motor : TD74 EU : 169.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 089

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 600

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : + 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 7.20 : ← 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

300

Tolerance : ← 0.30

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.40 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 175.0

Tolerance +	guide sleeve
cm3/1000 strokes : + 1.0	travel mm : 2.97 Tolerance mm : +- 0.25
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 390
Spreed	guide sleeve travel mm : 3.22
Tolerance +	Tolerance mm : +- 0.25
cm3/1000 strokes : 8.0	Rated speed rpm : 1390 guide sleeve
Check tolerance : 11.0	travel mm : 13.50 Tolerance mm : +- 0.50
1	GUIDE SLEEVE POSITION
Rated speed rpm : 300	Sones, Veneve (/onings
Rack travel in mm : 4.40	control lever
Tolerance am : + 0.10	position degree : - 1
Del. quantity	Rated speed rpm : 1290
cm3/1000 strokes : 23.0 + Tolerance	Rack travel in mm : 7.50
cm3/1000 strokes : + 2.5	Tolerance mm : +- 2.50
Check tolerance	
cm3/1000s. : + 5.0	
Spreed + Tolerance +	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 5.0	Rated speed rpm : 1100
Check tolerance	Aneroid pressure
cm3/1000s. : 8.0	hPa : 1500
†	Del. quantity
(B) SETTING OF INJECTION PUMP	cm3/1000 strokes : 175.0 Tolerance
WITH GOVERNOR	cm3/1000 strokes : +- 1.0
+	Check tolerance
	cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVEL	Spreed
Rated speed rpm : 1176	Tolerance cm3/1000 strokes : 8.0
guide sleeve	Check tolerance
travel mm : 10.15	cm3/1000s. : 11.0
Tolerance mm : + 0.25	
Rated speed rpm : 250	
guide sleeve	CONTROL LEVER
travel mm : 1.33	
Tolerance mm : + 0.25	control lever
Rated speed rpm : 733	position degree : 72.0 tolerance degree : +- 4.0
guide sleeve	totol alloc degrees
travel mm : 5.39	control lever
Tolerance mm : + 0.25	position degree : 118.0
Rated speed rpm : 307	tolerance degree : +- 4.0
guide sleeve	RATED SPEED
travel mm : 2.29	rack travel mm : 10.40
Tolerance mm : + 0.25	Rated speed rpm : 1135
Rated speed rpm : 357	Tolerance 1/min : + 5

rack travel man Rated speed rpm Tolerance 1/min rack travel man Tolerance man Rated speed rpm	: 1210 : + 15 : 0.50
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : + 4.0
control lever position degree tolerance degree	: 19.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRĩ mm min.	: > 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mma	: 300 : 4.40 : + 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 11.40 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 650 : 9.10 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 300 : 8.30 : ← 0.30
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 1100 : 1500 : 11.40

- 1	
Tolerance mm	: ← 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : - : 7.20 : + 0.10
MEASUREMENT	
Rated speed rpm	: 1100
Pressure hPa rack travel mm Tolerance mm	: 580 : 3.50 : \(\dagger 0.20
Pressure hPa rack travel mm Tolerance mm	: 120 : 0.25 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	: 1500
Rated speed rpm	: 650
Del. quantity cm3/1000 strokes	: 159.0
Tolerance cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s. Spreed	: + 5.0
Tolerance cm3/1000 strokes	: 10.0
Check tolerance cm3/1000s.	: 14.0
rack travel mm Tolerance mm	: 8.30 : + 0.30
Aneroid pressure	_
Rated speed rpm	650
Del. quantity cm3/1000 strokes	: 114.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000s.	: +- 4.0
LOW IDLE	

Rated speed rpm	:		300
Rack travel in mm	:		4.40
Tolerance mm	:	+-	0.10
Del. quantity			
cm3/3000 strokes	:		23.0
Tolerance			
cm3/1000 strokes	:	+	2.5
Check tolerance			
cm3/1000s.	:	+-	5.0
Spreed	•		
Tolerance			
cm3/1000 strokes			5.0
Check tolerance	•		٥.٠
cm3/1000s.			8.0
SINO/ TODOS.	٠		ଜ.ଫ

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 13.03.97 Edition Test oil : ISO 4113

Combination No. : 0 402 846 062

Injection pump

Pump designation : PE6P120A320RS8024-1

EP type number : 0 412 826 029

Governor

Governer design. : RQV250...1100PA1072

: -¾K

: 0 421 815 978 Governer no.

Cust. part No. : 477951-P05 v. 11.95

Customer-spec. information

Customer : VOLVO-TRUCK Motor : TD74 EU

: 191.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 089

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter :

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 7.60 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.50 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 189.0

Tolerance	† guide sleeve
cm3/1000 strokes : +- 1.0	† travel mm : 2.97
	+ Tolerance mm : + 0.25
Check tolerance	+
$cm3/1000s.$: \leftarrow 4.0	+ Rated speed rpm : 390
	+ guide sleeve
Spreed	travel mm : 3.22
op: out	+ Tolerance mm : +- 0.25
Tolerance	1
cm3/1000 strokes : 8.0	Rated speed rpm : 1390
UND/ 1000 Strokes . 0.0	guide sleeve
Check tolerance	travel mm : 13.50
cm3/1000s. : 11.0	Tolerance mm : + 0.50
CHO/ 10003 11.0	Toterance iiiii : + 0.50
	Ť
	CUIDE CLEENE DOCTION
Detail	GUIDE SLEEVE POSITION
Rated speed rpm : 300	†
Deal Assess to the second of t	†
Rack travel in mm: 4.80	+ control lever
Tolerance mm : + 0.10	+ position degree : -1
Del. quantity	+ Rated speed rpm : 1290
cm3/1000 strokes : 23.0	+
Tolerance	+ Rack travel in mm : 7.50
cm3/1000 strokes : +- 2.5	+ Tolerance mma : + 2.50
Check tolerance	+
cm3/1000s. : +- 5.0	
Spreed	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	+
cm3/1000 strokes : 5.0	+ Rated speed rpm : 1100
Check tolerance	+ Aneroid pressure
cm3/1000s. : 8.0	+ hPa : 1500
	+ Del. quantity
	+ cm3/1000 strokes : 189.0
(B) SETTING OF INJECTION PUMP	+ Tolerance
WITH GOVERNOR	+ cm3/1000 strokes : + 1.0
WITH GOTEINON	+ Check tolerance
	- cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAVEL	Spreed
GOIDE OFFERE I WASTE	Tolerance
Ratted speed rpm : 1176	- cm3/1000 strokes : 8.0
guide sleeve	+ Check tolerance
	+ cm3/1000s. : 11.0
Toleranse mm : + 0.25	Ť
Datad aroad page 4 250	T
Rated speed rpm : 250	CONTROL LEVES
guide sleeve	CONTROL LEVER
travel mm : 1.33	- †
Tolerance mm : +- 0.25	+ control lever
- · · · ·	+ position degree : 66.0
Rated speed rpm : 733	+ tolerance degree : +- 4.0
guide sleeve	†
travel mm : 5.39	† control lever
Tolerance mm : + 0.25	+ position degree : 119.0
	tolerance degree : +- 4.0
Rated speed rpm : 307	+
guide sleeve	+ RATED SPEED
travel mm : 2.29	rack travel mm : 11.50
Tolerance mm : + 0.25	+ Rated speed rpm : 1135
	+ Tolerance 1/min : + 5
Rated speed rpm : 357	+ · · · · · · · · · · · · · · · · · · ·
	•

rack travel mon Rated speed rpm Tolerance 1/min rack travel mon Tolerance mon Rated speed rpm	: 0.50
LOW IDLE	
control lever position degree tolerance degree	: 72.0 : + 4.0
control lever position degree tolerance degree	: 19.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT അംഗരീവം.	: > 6.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 4.80 : +- 0.10
Rated speed rpm	: 375
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.50 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 650 : 12.30 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 300 : 10.50 : +- 0.30
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 1100 : 1500 : 12.50

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : - : 7.75 : ← 0.10
MEASUREMENT	
Rated speed rpm	: 1100
Pressure hPa rack travel mm Tolerance mm	: 750 : 4.20 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 200 : 0.25 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1500 : 650
Del. quantity cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	: + 2.5 : + 5.0
cm3/1000s. Spreed Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: 10.0 : 14.0
rack travel mm Tolerance mm	: 10.50 : + 0.30
Aneroid pressure	
hPa Rated speed rpm	650
Del. quantity cm3/1000 strokes	: 115.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
LOW IDLE	

Tolerance mm : + 0.10

Rated speed rpm	:		300
Rack travel in mm Tolerance mm Del. quantity	:	+-	4.80 0.10
cm3/1000 strokes Tolerance	:		23.0
cm3/1000 strokes Check tolerance	:	+	2.5
cm3/1000S. Spreed	:	+-	5.0
Tolerance cm3/1000 strokes	:		5.0
Check tolerance cm3/1000s.	:		8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 17.02.98 : ISO 4113

Combination No.

: 0 402 846 064

Injection pump

Pump designation : PE6P12UA32URS8U3U EP type number : 0 412 826 030

Governor

Governer design. : RQV300...1100PA1017

: -2

: 0 421 814 102 Governer no.

Cust. part No. : 3825157-P04 v.05.96

Customer-spec. information Customer : PENTA

Motor : TWD 1230 E Power KW : 275.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. l/h : 150 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.15 Tolerance mm : +- 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 8.10 : **←** 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance NW : +- 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

F27

	+
Rack travel in mm: 11.90 Tolerance mm: : + 0.05	Rated speed rpm : 385 guide sleeve
	travel mm : 1.98
Del. quantity cm3/1 000 strokes : 277.0	Tolerance mma : + 0.25
	+ Rated speed rpm : 435
Tolerance	+ guide sleeve
cm3/1000 strokes : +- 1.0	+ travel mm : 2.45
	+ Tolerance mm : + 0.25
Check tolerance	}
$cm3/1000s.$: \leftarrow 4.0	+ Rated speed rpm : 530
	+ guide sleeve
Spreed	+ travel mm : 3.11
Sp. 334	+ Tolerance mm : + 0.25
Tolerance	1 Total direct lines
cm3/1000 strokes : 8.0	+ Rated speed rpm : 1400
CHO 1000 3610RES . 0.0	+ guide sleeve
Check tolerance	travel mm : 11.50
cm3/1000s. : 11.0	Tolerance mm : + 0.50
CIBS/ 10005. : 11.0	† Toterance mm : T- 0.50
	†
705	+ GUIDE SLEEVE POSITION
Rated speed rpm : 325	†
	†
Rack travel in mm : 4.60	+ control lever
Tolerance mm : +- 0.10	+ position degree : - 1
Del. quantity	+ Rated speed rpm : 1250
cm3/1000 strokes : 20.0	-
Tolerance	+ Rack travel in mm: 9.00
cm3/1000 strokes : + 2.5	+ Tolerance mm : +- 3.00
Check talerance	+
Check tolerance : + 5.0	I
$cm3/1000s.$: \leftarrow 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 5.0 Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 5.0 Spreed Tolerance	+
<pre>cm3/1000s. : ← 5.0 Spreed Tolerance cm3/1000 strokes : 5.0</pre>	Rated speed rpm : 700
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 700 Aneroid pressure
<pre>cm3/1000s. : ← 5.0 Spreed Tolerance cm3/1000 strokes : 5.0</pre>	Rated speed rpm : 700 Aneroid pressure hPa : 1800
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity
cm3/1000s. : ← 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance
cm3/1000s. : ← 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0 Spreed Tolerance
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve travel mm : 8.71	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve travel mm : 8.71 Tolerance mm : + 0.25	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve travel mm : 8.71 Tolerance mm : + 0.25 Rated speed rpm : 325	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0
Cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve travel mm : 8.71 Tolerance mm : + 0.25 Rated speed rpm : 325 guide sleeve	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
Cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve travel mm : 8.71 Tolerance mm : + 0.25 Rated speed rpm : 325 guide sleeve travel mm : 1.41	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0
Cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve travel mm : 8.71 Tolerance mm : + 0.25 Rated speed rpm : 325 guide sleeve	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0
Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s. : 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 1182 guide sleeve travel mm : 8.71 Tolerance mm : 4.25 Rated speed rpm : 325 guide sleeve travel mm : 1.41 Tolerance mm : 1.41 Tolerance mm : + 0.25	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever position degree : 46.0
Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1182 guide sleeve travel mm: 8.71 Tolerance mm: 4.0.25 Rated speed rpm: 325 guide sleeve travel mm: 1.41 Tolerance mm: 1.41 Tolerance mm: 4.0.25 Rated speed rpm: 834	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever
Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1182 guide sleeve travel mm: 8.71 Tolerance mm: 4-0.25 Rated speed rpm: 325 guide sleeve travel mm: 1.41 Tolerance mm: 1.41 Tolerance mm: 4-0.25 Rated speed rpm: 834 guide sleeve travel mm: 1.41 Tolerance mm: 1.41 Tolerance mm: 4-0.25	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever position degree : 46.0 tolerance degree : + 4.0
Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1182 guide sleeve travel mm: 8.71 Tolerance mm: : + 0.25 Rated speed rpm: 325 guide sleeve travel mm: 1.41 Tolerance mm: : + 0.25 Rated speed rpm: 834 guide sleeve travel mm: : 5.40	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0 CONTROL LEVER control lever position degree : 46.0 tolerance degree : + 4.0 control lever
Spreed Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000s.: 8.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm: 1182 guide sleeve travel mm: 8.71 Tolerance mm: 4-0.25 Rated speed rpm: 325 guide sleeve travel mm: 1.41 Tolerance mm: 1.41 Tolerance mm: 4-0.25 Rated speed rpm: 834 guide sleeve travel mm: 1.41 Tolerance mm: 1.41 Tolerance mm: 4-0.25	Rated speed rpm : 700 Aneroid pressure hPa : 1800 Del. quantity cm3/1000 strokes : 277.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 11.0 CONTROL LEVER control lever position degree : 46.0 tolerance degree : + 4.0

tolerance degree : + 4.0	+
•	+ Rated speed rpm : 500
RATED SPEED	Pressure hPa : - rack travel mm : 8.10 Tolerance mm : + 0.20
rack travel mm : 10.90 Rated speed rpm : 1080 Tolerance 1/min : +- 5	+ rack travel mm : 8.10
Rated speed rpm : 1080	+ Tolerance mm : + 0.20
Tolerance 1/min : +- 5	+
	+ MEASUREMENT
rack travel mm : 4.00	· † ·
Rated speed rpm : 1190 Tolerance 1/min : +- 15	+ Rated speed rpm : 500
Tolerance 1/min : +- 15	† n
made through the control of the	+ Pressure hPa : 1080
rack travel mm : 0.50	rack travel mm : 3.50 Tolerance mm : + 0.20
Tolerance mm : + 0.50 Rated speed rpm : 1300	Toterance and : TO U.20
natea speed i piii . 1566	Pressure hPa : 350
	rack travel mm : 025
	+ rack travel mm : 0.25 + Tolerance mm : + 0.05
	1020.07.00 1111
LOW IDLE	+
	+
	FUEL DELIVERY CHARACTERISTICS
control lever	+
position degree : 82.0	-
tolerance degree : +- 4.0	+ Aneroid pressure
	+ hPa : -
control lever	Rated speed rpm : 700
position degree : 12.0	+ Del. quantity
tolerance degree : +- 4.0	- cm3/1000 strokes : 165.0
	+ Tolerance
Setting point w/out bumper spring	+ cm3/1000 strokes : + 1.0
Battari manadi mana a 225	+ Check tolerance
Ratted speed rpm : 225	+ cm3/1000s. : +- 4.0
CRT mm min. :> 7.20	I
01(1 mm) in [1]	
Testing:	STARTING FUEL DELIVERY
, 550	-
Rated speed rpm : 325	Rated speed rpm : 100
rack travel mm : 4.60	rack travel mm : 8.10
Tolerance mm : +- 0.10	Tolerance mm : + 0.20
	+ Del. quantity
Rated speed rpm : 360	+ cm3/1000 strokes : 120.0
	+ Tolerance
	+ cm3/1000 strokes : + 21.0
TORQUE CONTROL	+ Check tolerance
Rated speed rpm : 700	+ cm3/1000s. : $+$ 25.0
rack travel mm : 11.90	†
Tolerance mm : + 0.05	†
ANEROID/ALTITUDE	LOW IDLE
COMPENSATOR TEST	1 204 1022
	+ Rated speed rpm : 325
SETTING	Rack travel in mm: 4.60
	+ Tolerance mm : + 0.10
Rated speed rpm : 500	- Del. quantity
Pressure hPa : 1800	+ cm3/1000 strokes : 20.0
rack travel mm : 11.90	Tolerance
Tolerance mm : # 0.05	+ cm3/1000 strokes : + 2.5
	,

Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.04.93 Test oil : ISO 4113

Combination No. : 0 403 446 313

Injection pump

Pump designation : PES6MW100/720RS1228 EP type number : 0 413 406 218

Governor

Governer design. : RQV325...1350MW127K

Governer no. : 0 420 083 988

Cust. part No. :

Customer-spec. information Customer : IVECO-FIAT Motor : 8060.45.6200

Power KW : 167.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.15

Tolerance mm : \leftarrow 0.05

Rack travel in mm: 6.00 Tolerance mm: + 0.10

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever

position degree : - 1 Rated speed rpm : 1400

Rack travel in mm: 16.50 Tolerance mm: : + 1.30

CONTROL LEVER

control lever

position degree : 124.0 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.00 Rated speed rpm : 1425 Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1530
Tolerance 1/min : + 15

LOW IDLE

control lever

position degree : 82.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 200

CRT mm min. : > 7.50

Testing:

Rated speed rpm : 325 rack travel mm : 6.00 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 12.15 Tolerance mm : ± 0.05

Rated speed rpm : 1200 rack travel mm : 13.40 Tolerance mm : \leftarrow 0.10

Rated speed rpm : 900 rack travel man : 12.50 Tolerance man : +- 0.10

Rated speed rpm : 1350 rack travel mm : 13.00 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1200
Pressure hPa : 1200
rack travel mm : 13.40
Tolerance mm : + 0.10

Rated speed rpm : 1200
Pressure hPa : rack travel mm : 8.40
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 1200

Pressure hPa : 800 rack travel mm : 12.00 Tolerance mm : + 0.10

Pressure hPa : 450 rack travel mm : 10.05 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 1200
Del. quantity
cm3/1000 strokes : 121.5
Tolerance
cm3/1000 strokes : +- 1.5

cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.7.0 :

Aneroid pressure

hPa 1200 Rated speed rpm 900 12.50 rack travel mm : **←** 0.10 Tolerance mm Del. quantity

cm3/1000 strokes : 117.5

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance

cm3/1000s. : +- 4.0

Aneroid pressure

1200 Rated speed rpm 1350

Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance

cm3/1000s. 4.0

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes : 66.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0

WARM-START DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : + 13.0

COLD-START DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s.

: + 13.0

LOW IDLE

Rack travel in mm: 6.00 Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.02.98 Edition : ISO 4113 Test oil

Combination No. : 0 403 466 173

Injection pump

Pump designation : PES6MW100/120RS1241

EP type number : 0 413 406 240

Governor

Governer design. : RSV400...950MW0A384

: -1

Governer no. : 0 420 085 285

Cust. part No. : 3930118

Customer-spec. information : CDC Customer Motor : 6 CT

: 145.0 Power KW

TEST BENCH REQUIREMENTS

Iniet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : **←** 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : + 1.0

Prestroke mm 2.80

: **←** 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance 'NW : **←** 0.75

Start of delivery blocking

"NW after s.o.d. : 7.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm: 12.50

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 147.0

606

Tolerance cm3/1000 strokes : + 1.0	Tolerance : + 1.0
Check tolerance cm3/1000s. : + 4.0	Check tolerance cm3/1000s.:+- 4.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	- CONTROL LEVER
	control lever
Rated speed rpm : 425	position degree : 82.0 tolerance degree : + 4.0
Rack travel in mm: 5.60 Tolerance mm: + 0.30	RATED SPEED : 11.50
Del. quantity	Rated speed rom : 995
cm3/1000 strokes : 22.0	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1080
cm3/1000s. : + 4.5	Tolerance 1/min : + 15
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 3.5	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1250
cm3/1000s. : 5.5	
†	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1095 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
GOIDE SEEEAE LOSILION	. LOW INCE
control lever	control lever
position degree : -3	position degree : 68.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm : 0.65 Tolerance mm : + 0.35	Setting point w/out bumper spring
. +	Rated speed rpm : 425
governor spring	rack travel mm : 4.60
pre-tension + click setting x : 3.25 +	Tolerance mm : +- 0.10
TOTAL SELLING A . J.L.	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.50
Rated speed rpm : 950 Aneroid pressure	Testing:
hPa : 1200	Rated speed rpm : 425
Del. quantity	rack travel mm : 5.60
cm3/1000 strokes : 147.0	Tolerance mm : + 0.30

rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 505 : ← 35
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 950 : 12.50 : ← 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 12.50 : + 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : − : 10.25 : ← 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 850 : 11.60 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 680 : 10.75 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 500
cm3/1000 strokes Tolerance	: 118.0
cm3/1000 strokes Check tolerance cm3/1000s.	: ← 1.0 : ← 4.0

rack travel mm Tolerance mm	: : +-	20.00 1.00
Del. quantity cm3/1000 strokes Tolerance	:	170.0
cm3/1000 strokes Check tolerance	: +-	10.0
cm3/1000s.	: +-	13.0

LOW	IDLE	

Rated speed rpm	•	425
Rack travel in man Tolerance man Del. quantity	: : +-	5.60 0.30
cm3/1000 strokes	:	22.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000S.	: +-	4.5
Spreed Tolerance		
cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	:	5.5

End of test specification sheet

Rated speed rpm : 100

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.02.98 Test oil : ISO 4113

Combination No. : 0 403 466 180

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV425...1150MW2A407

Governer no. : 0 420 085 298

Cust. part No. : 3284067

Customer-spec. information Customer : CDC Motor : 6 CT Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance *C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar $: \leftarrow 0.1$

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : **←** 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar $: \leftarrow 1.0$

: 2.80 Prestroke mm Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : + - 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.25

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 9.95 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 119.0

Tolerance cm3/1000 strokes : +- 1.0	Tolerance : + 1.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : + 4.0 Spreed
Spreed	Tolerance - cm3/1000 strokes : 4.0 - Check tolerance
Tolerance cm3/1000 strokes : 4.0	cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
	control lever
Rated speed rpm : 440	position degree : 109.0 tolerance degree : +- 4.0
Rack travel in mm: 5.25	RATED SPEED
Tolerance nm : + 0.10	rack travel mm : 8.95
Del. quantity - cm3/1000 strokes : 24.5	Rated speed rpm : 1225
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1300
cm3/1000s. : - 4.5	Tolerance 1/min : +- 5
Tolerance	rack travel mm : 1.00
cm3/1000 strokes : 3.5	Tolerance mm : +- 0.70
Check tolerance	Rated speed rpm : 1400
cm3/1000s. : 5.5	†
	+ rack travel mm : 4.00 + Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
position degree : -3	position degree : 87.0
Rated speed rpm : 800	tolerance degree : + 4.0
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Setting point w/out bumper spring
	Rated speed rpm : 440_
governor spring	rack travel mm : 4.75 Tolerance mm : +- 0.10
pre-tension - click setting x : 4.25 -	TOTE PARTIE HER TOTAL TO
The second of th	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. :> 19.00
Rated speed rpm : 1150 - Aneroid pressure	Testing:
hPa : 900	Rated speed rpm : 440
Del. quantity	rack travel mm : 5.25
cm3/1000 strokes : 119.0	Tolerance mm : +- 0.10

TORQUE CONTROL Rated speed rpm:: 1150 rack travel mm:: 9.95 Tolerance mm:: + 0.05 Rated speed rpm:: 750 rack travel mm:: 10.20 Tolerance mm:: + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm:: 500 Pressure hPa:: 900 rack travel mm:: 10.30 Tolerance mm:: + 0.10 Rated speed rpm:: 500 Pressure hPa:: 500 Pressure hPa:: 10.20 MEASUREMENT Rated speed rpm:: 500 Pressure hPa:: 550 rack travel mm:: 10.25 Tolerance mm:: + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa:: 900 Rated speed rpm:: 750 Del. quantity cm3/1000 strokes: 123.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000 strokes: - 5.0 Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s: 9.0 Aneroid pressure hPa::		
rack travel mm : 10.20 Tolerance mm : + 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 10.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.10 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 10.25 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000 strokes : 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 Aneroid pressure hPa : -	Rated speed rpm rack travel mm	: 9.95
SETTING Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 10.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.10 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 500 Pressure hPa : 500 Pressure hPa : 500 Pressure hPa : 500 Fresure hPa : 500 Pressure hPa : 500 Pressure hPa : 500 Rated speed rpm : 750 Poll quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 Aneroid pressure hPa : 900 Rated speed rpm : 750 Poll quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : - 2.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0	rack travel mm	: 10.20
Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 10.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.10 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 10.25 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000s strokes : 6.0 Check tolerance cm3/1000s. : 9.0 Aneroid pressure hPa : 900	_	
Pressure hPa : 900 rack travel mm : 10.30 Tolerance mm : + 0.10 Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.10 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 10.25 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s: + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s: 9.0 Aneroid pressure hPa : 900	SETTING	
Pressure hPa : - rack travel mm : 10.10 Tolerance mm : + 0.20 MEASUREMENT Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 10.25 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 Aneroid pressure hPa : -	Pressure hPa rack travel mm	: 900 : 10.30
Rated speed rpm : 500 Pressure hPa : 550 rack travel mm : 10.25 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 Aneroid pressure hPa : -	Pressure hPa rack travel mm	: – : 10.10
Pressure hPa : 550 rack travel mm : 10.25 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 Aneroid pressure hPa : -	MEASUREMENT	
rack travel mm : 10.25 Tolerance mm : + 0.05 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 Aneroid pressure hPa : -	Rated speed rpm	: 500
Aneroid pressure hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 Aneroid pressure hPa : -	rack travel mm	: 10.25
hPa : 900 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 9.0 Aneroid pressure hPa : -	FUEL DELIVERY CHA	RACTERISTICS
cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 Aneroid pressure hPa : -	hPa Rated speed rpm	
cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 Aneroid pressure hPa : -	cm3/1000 strokes	: 123.0
cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 Aneroid pressure hPa : -	cm3/1000 strokes	: + 2.0
Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0 Aneroid pressure hPa : -	cm3/1000s.	: +- 5.0
Aneroid pressure hPa : -	Tolerance cm3/1000 strokes	: 6.0
hPa : -		: 9.0
***	· ·	
Rated speed rpm : 500	hPa Rated speed rpm	: 500

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		
STARTING FUEL DEL	IVERY	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		
LOW IDLE		
Rated speed rpm	: 440	
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 0.10 : 24.5 : + 2.0 : + 4.5	
End of test specification sheet		
=:== =: :::::::::::::::::::::::::::::::		

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.02.98 : ISO 4113

Combination No. : 9 400 087 437

Injection burab

Pump designation : PE6P110A320RS3108Y EP type number : 0 411 816 729

Governor

Governer design. : RQV250...1100PA589

: -3

Governer no.

: 9 420 080 288

Cust. part No. :

Customer-spec. information

Customer

: VOLVO-TRUCK

Motor

: THD 100 EC

Power KW

: 180.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve

: 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

: +- 1.5

Test Lines

: 1 680 750 015

Outside diameter : 6.0

G12

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 3.05

Tolerance mm : **←** 0.05

Check

tolerance mm : + - 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

EASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.15

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 139.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: **←** 4.0

Spreed

Tolerance cm3/1000 strokes	s : 4.0	control lever position degree : - 1
Check tolerance cm3/1000s.	: 7.5	Rated speed rpm : 1175
		Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Rated speed rpm	: 250	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in m	nn: 5.30	+
Tolerance mm		Rated speed rpm : 700
Del. quantity		+ Aneroid pressure
cm3/1000 strokes	s: 32.0	+ hPa : 900
Tolerance		+ Del. quantity
cm3/1000 strokes	s : + 2.5	- cm3/1000 strokes : 139.0
Check tolerance		+ Tolerance
	: +- 5.0	+ cm3/1000 strokes : + 1.0
Spreed	• • 5.0	+ Check tolerance
Tolerance		cm3/1000s. : + 4.0
cm3/1000 strokes	s : 4.5	Spreed 4.5
Check tolerance		Tolerance
cm3/1000s.	: 7.5	- cm3/1000 strokes : 4.0
CHD/ 10003.	. 1.5	+ Check tolerance
		- cm3/1000s. : 7.5
(3) SETTING OF I	INJECTION PUMP	. 7.3
		CONTROL LEVER
GUIDE SLEEVE TRA	AVEL	†
		- control lever
Rated speed rpm	: 950	+ position degree : 65.0
guide sleeve		+ tolerance degree : +- 4.0
travel mm	: 6.50	+
Tolerance mm	: ← 0.20	+ control lever
		+ position degree : 119.0
Rated speed rpm	: 250	tolerance degree : + 4.0
guide sleeve		+
travel mm	: 1.20	+ RATED SPEED
Tolerance mm	: +- 0.10	+ rack travel mm : 10.10
		+ Rated speed rpm : 1165
Rated speed rpm	: 500	+ Tolerance 1/min : + 5
guide sleeve	· -	+
travel mm	: 4.50	rack travel mm : 4.00
Tolerance mm	: +- 0.40	+ Rated speed rpm : 1240
		+ Tolerance 1/min : + 15
Rated speed rpm	: 700	1 Total dillo 17 mill
guide sleeve		rack travel mm : 0.50
travel mm	: 6.50	Tolerance mm : + 0.50
Tolerance mm	: + 0.20	Rated speed rpm : 1350
TOTE CALLE HAR	. +- 0.20	T rated speed this : 1990
Rated speed rpm	: 1100	I
guide sleeve	. 1100	1
travel mm	: 7.25	
Tolerance mm	: + 0.25	LOW IDLE
TOTE CALLE IN	٠ ١٠ ٠٠٠	T LOW IDEE
CUIDE CLEENE CO	TTTON	† anntagl towar
GUIDE SLEEVE POS)T I TOM	t control lever
		position degree : 64.0
		+ tolerance degree : +- 4.0

control lever position degree : 12.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 100 CRT mm min. : > 6.70 Testing: Rated speed rpm : 250 5.30 rack travel mm : : + 0.10Tolerance mm Rated speed rpm : 338 TORQUE CONTROL 700 Rated speed rpm : rack travel mm : 11.15 Tolerance man : **←** 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm : 900 Pressure hPa rack travel mm : 11.15 : **←** 0.05 Tolerance mm Rated speed rpm 500 Pressure hPa **MEASUREMENT** Rated speed rpm : 500 430 Pressure hPa rack travel mm 1.20 : + 0.10 Tolerance mm : 280 Pressure hPa 0.25 rack travel mm : Tolerance mm : + 0.05

cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: :+-	107.0 1.0 4.0	
STARTING FUEL DELI	LVERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity	: : : +-	100 20.50 0.50	
cm3/1000 strokes	:	170.0	
Tolerance cm3/1000 strokes	: +-	10.0	
Check tolerance cm3/1000s.	: +-	14.0	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
LOW IDLE Rated speed rpm	•	250	
Rated speed rpm Rack travel in mm Tolerance mm	•	250 5.30 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	:	5.30	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: +-	5.30 0.10	
Rated speed rpm Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: +-	5.30 0.10 32.0	
Rated speed rpm  Rack travel in mm  Tolerance mm  Del. quantity  cm3/1000 strokes  Tolerance  cm3/1000 strokes  Check tolerance  cm3/1000s.  Spreed	: +-	5.30 0.10 32.0 2.5	
Rated speed rpm  Rack travel in mm  Tolerance mm  Del. quantity  cm3/1000 strokes  Tolerance  cm3/1000 strokes  Check tolerance  cm3/1000s.	: +-	5.30 0.10 32.0 2.5	

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 700

G14

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.02.98 : ISO 4113 Test oil

Combination No. : 0 400 466 090

Injection pump

Pump designation: PES6A75D410/3RS1326

EP type number : 0 410 476 977

Governor

Governer design. : RSV325...1400A8C495L

Governer no. : 0 420 232 302

Cust. part No. :

Customer-spec. information

: KHD Customer : F6L912 Motor

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.0

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : **←** 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.95

: +- 0.05 Tolerance mm

Check

tolerance mma : +- 0.10

Rack travel in mm: 10.50 Tolerance  $m_0$ : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.25

Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes : 44.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s. : **←** 2.0

Spreed

Tolerance

cm3/1000 strokes : 2.0

G15

+	
Check tolerance cm3/1000s. : 3.5	CONTROL LEUED
CREST 10005. : 3.5	CONTROL LEVER
	control lever
1	position degree : 118.0
Rated speed rpm : 325	tolerance degree : +- 4.0
<u> </u>	
Rack travel in mm: 8.50	RATED SPEED
Tolerance mm : + 0.10 + Del. quantity +	rack travel mm : 9.20
cm3/1000 strokes : 11.0	Rated speed rpm : 1445 Tolerance 1/min : +- 5
Tolerance	Total and Thirty
cm3/1000 strokes : + 3.0 +	rack travel mm : 4.00
Check tolerance +	Raced speed rpm : 1485
cm3/1000s. : +- 4.5	Tolerance 1/min : + 15
Spreed + Tolerance +	mark through the second of 100
cm3/1000 strokes : 2.0	rack travel mm : 1.00 Tolerance mm : + 0.70
Check tolerance	Rated speed rpm : 1675
cm3/1000s. : 3.0	
+	rack travel mm : 4.00
†	Rated speed rpm : 1550
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : + 15
WITH GOVERNOR +	
$\overline{\downarrow}$	
GUIDE SLEEVE POSITION	LOW IDLE
†	
control lever	control lever
position degree : -3	position degree : 71.0
Rated speed rpm : 800	tolerance degree : +- 4.0
+	•
Rack travel in mm: 0.65	Setting point w/out bumper spring
Tolerance mm : + 0.35	Defend are and are
governor spring	Rated speed rpm : 325 rack travel mm : 9.00
pre-tension +	Tolerance mm : +- 0.10
click setting x : 5.75	10001011001001
+	Rated speed rpm : 100
+	
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.00
Rated speed (pm : 1400	Testing:
Aneroid pressure	resting:
hPa : -	Rated speed rpm : 325
Del. quantity	rack travel mm : 8.50
cm3/1000 strokes : 44.0 +	Tolerance mm : + 0.10
Tolerance +	and Annual at
cm3/1000 strokes : + 0.5	rack travel mm : 2.00
Check tolerance + 2.0 +	Rated speed rpm : 680 Tolerance 1/min : +- 30
Spreed	total differential in the Su
Tolerance	
cm3/1000 strokes : 2.0	TORQUE CONTROL
Check tolerance	Rated speed rpm : 1400
cm3/1000s. : 3.5 +	rack travel mm : 10.25
	Tolerance mm : +- 0.05

Rated speed rpm : 500 rack travel mm : 11.55 Tolerance mm : + 0.05

Rated speed rpm : 955 rack travel mm : 10.90 Tolerance mm : ← 0.10

# FUEL DELIVERY CHARACTERISTICS

rack travel mm : 10.90 Tolerance mm : + 0.10

## STARTING FUEL DELIVERY

Rated speed rpm : 100

## LOW IDLE

Rated speed rpm : 325

Rack travel in mm: 8.50 Tolerance mn:  $\leftarrow$  0.10 Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  3.0

Check tolerance cm3/1000s. : **←** 4.5

Spreed

Tolerance cm3/1000 strokes :

2.0

Check tolerance

cm3/1000s. 3.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.07.97 Test oil : ISO 4113

Combination No. : 0 400 876 293

Injection pump

Pump designation : PES6A90D410RS2596

EP type number : 0 410 896 073

Governor

Governer design. : RSV350...1400A0C1141

: L

Governer no. : 0 420 232 423

Cust. part No. :

Customer—spec. information Customer : MB-NFZ Motor : 0M352A Fower KW : 123.0

#### TEST BENCH REQUIREMENTS

Inlet line : 1.2

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check

tolerance m :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : ← 0.50

Check

tolerance  $^{\circ}NW$  : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.95 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 74.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  0.5

Check tolerance

cm3/1000S.

: +- 2.5

Spreed

Tolerance	+
cm3/1000 strokes : 3.0	+
	+ CONTROL LEVER
Check tolerance	†
cm3/1000s. : 4.5	+ control lever
<del></del>	position degree : 114.0
	tolerance degree : +- 4.5
Rated speed rpm : 350	T RATED SPEED
Del. quantity	I RATED SPEED
cm3/1000 strokes : 11.0	rack travel mm : 0.85
Tolerance	Tolerance mm : + 0.55
cm3/1000 strokes : + 1.0	Rated speed rpm : 1680
Check tolerance	+
$cm3/1000s.$ : $\leftarrow$ 3.0	+ rack travel mm : 4.00
Spreed	+ Rated speed rpm : 1535
Tolerance	Tolerance 1/min : + 15
cm3/1000 strokes : 2.5	†
Check tolerance	†
UBD/ 100/3 : 4.0	I
	LOW IDLE
(B) SETTING OF INJECTION PUMP	1
WITH GOVERNOR	Setting point w/out bumper spring
	+
	+ Rated speed rpm : 350
	rack travel mm : 8.10
GUIDE SLEEVE POSITION	Tolerance mm : + 0.10
	† Datadamadama (100
control lever	Rated speed rpm : 100
position degree : - 3	T
Rated speed rpm : 800	T CA! (MAI) (N 1) 11.
Nacca opeca (pin 1 occ	Testing:
Rack travel in mm : 0.50	+
Tolerance ma : + 0.20	+ rack travel mm : 2.00
	+ Rated speed rpm : 500
governor spring	+ Tolerance 1/min : +- 30
pre-tension	†
click setting $x : 4.00$	TOROUG CONTROL
	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1400 rack travel mm : 11.95
TOLL LOAD PLETALIST HIS FOLL LOAD STOP	Tolerance mm : +- 0.05
Rated speed rpm : 1400	1.0001 01100 11911
Aneroid pressure	Rated speed rpm : 900
hPa : 700	rack travel mm : 13.05
Del. quantity	Tolerance mm : + 0.05
cm3/1000 strokes : 74.5	†
Tolerance	+ Rated speed rpm : 1050
cm3/1000 strokes : +- 0.5	rack travel mm : 12.80
Check tolerance	+ Tolerance mm : +- 0.10
cm3/1000s. : + 2.5	T Pated speed now . 1240
Spreed Tolerance	+ Rated speed rpm : 1260 + rack travel mm : 11.95
cm3/1000 strokes : 3.0	Tolerance mm : + 0.05
Check tolerance	1.0001 01100 1188
cm3/1000s. : 4.5	+
	1

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 13.15
Tolerance mm : +- 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 11.35
Tolerance mm : + 0.05

## **MEASUREMENT**

Rated speed rpm : 500

Pressure hPa : 340 rack travel mm : 11.70 Tolerance mm : + 0.10

Pressure hPa : 500 rack travel mm : 12.65 Tolerance mm : +- 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 700 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 76.5 Tolerance

cm3/1000 strokes : +- 1.5
Check tolerance

cm3/1000s. : + 4.0

rack travel mm : 12.80
Tolerance mm : + 0.10

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 50.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  0.5

Check tolerance cm3/1000s. :

: **←** 2.5

#### STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 16.30 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 83.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s.: +-8.0

## LOW IDLE

Rated speed rpm 350 Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 3.0 : +-Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance 4.5 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 21.02.98 : ISO 4113 Test oil

Combination No. : 0 400 876 404

Injection pump

Pump designation : PES6A95D41ORS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV650...1050A8c2263

Governer no. : 0 420 232 583

Cust. part No. : 87 801 602

Customer-spec. information

: FNH-GEOTECH Customer

: 7.5 L Motor

Power KW : 149.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C 40 Tolerance *C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 2.60 Prestroke mm : + 0.05 Tolerance mm

Check

: +- 0.10 tolerance am

Rack travel in mm : 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

> : -300 : + 0.50

Tolerance

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 14.50

: +- 0.10 Tolerance mm

Del. quantity cm3/1000 strokes : 151.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance cm3/1000s.

: **←** 3.0

G21

Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance	CHD/10003 0.0
cm3/1000s. : 8.0	CONTROL LEVER
	control lever
Rated speed rpm : 650	position degree : 92.0 tolerance degree : +- 4.0
Rack travel in mm: 5.40 Tolerance mm: + 0.10	The state of the s
Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 23.5	NOOL DEL GOVERNON DELL'ING
Tolerance	Rated speed rpm : 1087
cm3/1000 strokes : + 2.0	rack travel mm : 12.10
Check tolerance	
cm3/1000s. : - 4.5	Rated speed rpm : 1117
Spreed +	Tolerance 1/min : + 5
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 5.5	
Check tolerance + cm3/1000s. : 9.0 +	rack travel mm : 0.85 Tolerance mm : +- 0.55
	Rated speed rpm : 1225
$\frac{1}{4}$	nated speed (pit : 122)
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	Rated speed rpm : 1088
+	rack travel mm : 12.10
†	
	Rated speed rpm : 1118
GUIDE SLEEVE POSITION +	Tolerance 1/min : + 5
Ī	rack travel mm : 4.00
control lever	rack travel man : 0.85
position degree : - 3	Tolerance mm : + 0.55
Rated speed rpm : 800	Rated speed rpm : 1225
+	
Rack travel in mm: 0.50	Dated and any 1000
Tolerance mm : + 0.20 +	Rated speed rpm : 1089 rack travel mm : 12.10
governor spring	rack travet intil . 12.10
pre-tension +	Rated speed rpm : 1119
click setting x : 2.25	Tolerance 1/min : +- 5
+	rack travel mm : 4.00
+	
FULL LOAD DELIVERY AT FULL LOAD STOP +	rack travel mm : 0.85
Partial according to 200	Tolerance mm : + 0.55
Rated speed rpm : 750	Rated speed rpm : 1225
Aneroid pressure + hPa : 1200 +	
Del. quantity	Rated speed rpm : 1090
cm3/1000 strokes : 151.5	rack travel mm : 12.10
Tolerance	1641 W
cm3/1000 strokes : + 1.0	Rated speed rpm : 1120
Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : + 3.0 + Spreed	rack travel mm : 4.00
1	rack travel mm : 0.85

Tolerance non Rated speed rpm	: + 0.55 : 1225
Rated speed rpm rack travel mm	: 1091 : 12.10
Rated speed rpm Tolerance 1/min rack travel mm	: 1121 : +- 5 : 4.00
rack travel mm Tolerance mm Rated speed rpm	: <b>←</b> 0.55
Rated speed rpm rack travel mm	: 1092 : 12.10
Rated speed rpm Tolerance 1/min rack travel mm	: 1122 : + 5 : 4.00
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1225
LOW IDLE	
control lever position degree tolerance degree	
position degree tolerance degree Setting point w/s	out bumper spring
position degree tolerance degree	out bumper spring
position degree tolerance degree Setting point w/c Rated speed rpm rack travel mm	out bumper spring : 650 : 4.90 :+ 0.10
position degree tolerance degree Setting point w/s Rated speed rpm rack travel mm Tolerance mm	out bumper spring : 650 : 4.90 :+ 0.10
position degree tolerance degree Setting point w/s Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	out bumper spring : 650 : 4.90 : + 0.10 : 100
position degree tolerance degree Setting point w/c Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	out bumper spring : 650 : 4.90 : + 0.10 : 100
position degree tolerance degree Setting point w/s Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Testing: Rated speed rpm rack travel mm	<pre>cut bumper spring : 650 : 4.90 : + 0.10 : 100 : 19.50  : 650 : 5.40 : + 0.10 : 2.00 : 700</pre>

Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.80 : ← 0.10	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.10 : + 0.10	
Rated speed rpm rack travel mm Tolerance mm	: 975 : 13.65 : + 0.15	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 14.50 : + 0.10	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 8.90 : + 0.10	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel num Tolerance mum	: 325 : 10.70 : ← 0.20	
Pressure hPa rack travel mm Tolerance mm	: 550 : 13.55 : + 0.05	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure		
hPa Rated speed rpm	: - : 500	
Del. quantity cm3/1000 strokes	: 77.0	
Tolerance cm3/1000 strokes	: +- 2.0	
Check tolerance cm3/1000s.	: +- 4.5	

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity cm3/1000 strokes :

200.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  10.0

Check tolerance cm3/1000s. : **←** 13.0

# LOW IDLE

Rated speed rpm : 650

5.40 Rack travel in mm: Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance

5.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98 Test oil : ISO 4113

Combination No. : 0 400 876 405

Injection pump

Pump designation: PES6A95D41ORS2835 EP type number: 0 410 896 896

Governor

Scverner design. : RSV400...1050A2C2263

: -8L

Governer no. : 0 420 232 615

Cust. part No. : 87 801 600

Customer-spec. information

Customer : FNH-GEOTECH To the control of the contro

Power KW : 131.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter: 6.0

x inside diameter: 2.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60
Tolerance mm : - 0.05
Check

cneck

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: ~300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

#### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.20 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : + 4.5

0.4.a.da.d mm-	. /50	ASSEMBLY GOV	PERMOR SETTING
Rated speed rpm	: 450 -	N-4	1007
Rack travel in mm	: 5.70	Rated speed	
Tolerance am		rack travel	mi : 11.20
Del. quantity	. 1- 0.70	- Rated speed	rpm : 1168
cm3/1000 strokes	: 15.0	Tolerance 1/	
Tolerance	. 13.0	rack travel	
cm3/1000 strokes	: +- 2.0	Tack claves	. 4.00
Check tolerance	-	rack travel	mm : 0.85
cm3/1000s.	: +- 4.5	- Tolerance mo	
Spreed	-	Rated speed	
Toterance	-	+	
cm3/1000 strokes	: 3.5	-	
Check tolerance		Rated speed	
cm3/1000s.	: 9.0	rack travel	mm : 11.20
	-	h	. 11/0
(B) SETTING OF IN	IECTION DIME	Rated speed Tolerance 1/	
WITH GOVERNOR	SECTION LOW-	rack travel	
ATIL GOALIGION		Tack craves	MAII . 4.00
	·	rack travel	mm : 0.85
		- Tolerance ma	
GUIDE SLEEVE POSI	TION -	- Rated speed	
	-		•
	-	-	
control lever	_		rpm : 1095
position degree		rack travel	mm : 11.20
Rated speed rpm	: 890 -	_	4470
On all Annual de me	. 0.50	Rated speed	
Rack travel in mm	: 0.50 - : + 0.20 -	Tolerance 1/	
Tolerance mm	. — 0.20	rack travel	ium : 4.00
governor spring		rack travel	mm : 0.85
pre-teristori	·	- Tolerance ma	
click setting x	: 3.50	Rated speed	
	•	-	
		-	
FULL LOAD DELIVERY	Y AT FULL LOAD STOP -	Rated speed	rpm : 1096
		rack travel	mm : 11.20
Rated speed rpm	: 1050		4474
Aneroid pressure	. 4200	Rated speed	
hPa Del. quantity	: 1200 -		
cm3/1000 strokes	: 110.0	rack cravet	(R) . 4.00
Tolerance	. 110.0	rack travel	mm : 0.85
cm3/1000 strokes	: +- 2.0	Tolerance mm	
Check tolerance	•	Rated speed	
cm3/1000s.	: +- 4.5	+	
	-		
	•	Rated speed	rpm : 1097
		rack travel	mm : 11.20
CONTROL LEVER	•	h Dadaal asaasi	mm . 4470
control lever	-	<ul> <li>Rated speed</li> <li>Tolerance 1/</li> </ul>	
position degree	: 101.0	- Tolerance 17 - rack travel	
tolerance degree	· · · · · · · · · · · · · · · · · · ·	L TOUR CLOVEL	1888 · 4.UU
to to a life degree		rack travel	mm : 0.85
	-	- Tolerance mm	
		,	

Rated speed rpm	: 1300	
Rated speed rpm rack travel mm	: 1098 : 11.20	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm Tolerance 1/min rack travel mm	: <b>←</b> 5 <b>+</b>	SETTING  Rated speed rpm : 500  Pressure hPa : 1200
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1300	Pressure hPa : 1200 rack travel mm : 14.10 Tolerance mm : +- 0.10
LOW IDLE		Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.25 Tolerance mm : + 0.05
control lever position degree		MEASUREMENT
tolerance degree	: + 4.0	Rated speed rpm : 500
Setting point w/o	out bumper spring +	Pressure hPa : 500 rack travel mm : 11.55
Rated speed rpm rack travel mm	: 450 : 5.20	Tolerance mm : + 0.20
Tolerance mm	: ← 0.10	Pressure hPa : 800 rack travel mm : 13.55
Rated speed rpm	: 100	Tolerance mm : + 0.05
CRT mm min.	: > 19.50	
Testing:	: > 19.50	FUEL DELIVERY CHARACTERISTICS
Testing: Rated speed rpm	: 450	
Testing:	: 450 : 5.70	Aneroid pressure hPa : 1200
Testing: Rated speed rpm rack travel mm	: 450 : 5.70 : + 0.10 : 2.00	Aneroid pressure
Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm	: 450 : 5.70 : + 0.10 : 2.00	Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 137.5 Tolerance cm3/1000 strokes : + 1.0
Testing:  Rated speed rpm rack travel mm Tolerance mm  rack travel mm Rated speed rpm Tolerance 1/min  TORQUE CONTROL Rated speed rpm	: 450 : 5.70 : + 0.10 : 2.00 : 600 : +- 30	Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 137.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed
Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min Torque Control	: 450 : 5.70 : + 0.10 : 2.00 : 600 : +- 30	Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 137.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5
Rated speed rpm rack travel mm Tolerance mm Tolerance 1/min  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 450 : 5.70 : + 0.10 : 2.00 : 600 : +- 30 : 1050 : 12.20 : + 0.10 : 750 : 14.10	Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 137.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance
Rated speed rpm rack travel mm Tolerance mm  rack travel mm Rated speed rpm Tolerance 1/min  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: 450 : 5.70 : + 0.10 : 2.00 : 600 : +- 30 : 1050 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10 : 925 : 13.25	Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 137.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance
Rated speed rpm rack travel mm Tolerance mm  rack travel mm Rated speed rpm Tolerance 1/min  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: 450 : 5.70 : + 0.10 : 2.00 : 600 : +- 30 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10 : 925 : 13.25 : + 0.15	Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 137.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  rack travel mm : 13.25 Tolerance mm : + 0.15
Rated speed rpm rack travel mm Tolerance mm  rack travel mm Rated speed rpm Tolerance 1/min  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm rack travel mm Tolerance mm	: 450 : 5.70 : + 0.10 : 2.00 : 600 : +- 30 : 12.20 : + 0.10 : 750 : 14.10 : + 0.10 : 925 : 13.25 : + 0.15 : 1050	Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 137.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0

Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +-3.5

STARTING FUEL DELIVERY

100 Rated speed rpm : rack travel mm 20.25 : **←** 0.75 Tolerance mm

Del. quantity

cm3/1000 strokes : 200.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  10.0

Check tolerance

cm3/1000s. : +- 13.0

LOW IDLE

Rated speed rpm : 450

Rack travel in mm: 5.70 Tolerance mn:  $\leftarrow$  0.10

Del. quantity

cm3/1000 strokes : 15.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W4CO/...

Edition Test oil

: 23.02.98 : ISO 4113

Combination No. : 0 400 876 407

Injection pump

Pump designation : PES6A95D410RS2835 EP type number : 0 410 896 896

Governor

Governer design. : RSV650...1050A8C2263

: ~-3½

6overner no.

: 0 420 232 586

Cust. part No. : 87 801 606

Customer-spec. information Customer : NH : 7.5 L Motor Power KW : 138.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance *C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : +-2.60 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

## BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 14.00 Tolerance mn:  $\leftarrow$  0.10

Del. quantity

cm3/1000 strokes : 141.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance cm3/1000s. : + 3.0	- Check tolerance - cm3/1000s. : +- 3.0 - Spreed
Spreed	Tolerance : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	CONTROL LEVER
Rated speed rpm : 650	control lever position degree : 91.0 tolerance degree : +- 4.0
Rack travel in mm: 5.50 + Tolerance mm: + 0.10 + Del. quantity	- ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 22.0	
Tolerance cm3/1000 strokes : +- 2.0	- Rated speed rpm : 1092 - rack travel mm : 11.80
Check tolerance cm3/1000s. : + 3.5 Spreed	Rated speed rpm : 1122 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : 3.5	rack travel mm : 4.00
Check tolerance	rack travei mm : 0.85
cm3/1000s. : 5.5	Tolerance mm : +- 0.55 Rated speed rpm : 1250
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	Rated speed rpm : 1093 rack travel mm : 11.80
GUIDE SLEEVE POSITION	Rated speed rpm : 1123 Tolerance 1/min : +- 5
COLDE SECTIVE 1 COLLIENT	rack travel mm : 4.00
control lever	rack travel mm : 0.85
position degree : -3 Rated speed rpm : 800	Tolerance mm : +- 0.55 Rated speed rpm : 1250
Rack travel in mm: 0.50	. Dated around man
Tolerance mm : + 0.20	Rated speed rpm : 1094 rack travel mm : 11.80
governor spring pre-tension	Rated speed rpm : 1124
click setting x : 2.50	Tolerance 1/min : + 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : +- 0.55
Rated speed rpm : 750 Aneroid pressure	Rated speed rpm : 1250
hPa : 800 +	Reted enough the Appe
Del. quantity cm3/1000 strokes : 141.0	Rated speed rpm : 1095 rack travel mm : 11.80
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1125 Tolerance 1/min : +- 5

rack travel mm : 4.00	+ Rated speed rpm : 1050
100 ti di 00 ma	rack travel mm : 12.50
rack travel mm : 0.85	+ Tolerance mm : + 0.10
Tolerance mm : +- 0.55	+
Rated speed rpm : 1250	+ Rated speed rpm : 1050
	+ rack travel mm : 12.80 + Tolerance mm : + 0.10
D. A. d	+ Tolerance mm : +- 0.10
Rated speed rpm : 1096 rack travel mm : 11.80	<b>† P</b> -A - A
rack travel mm : 11.00	Rated speed rpm : 960
Rated speed rpm : 1126	rack travel mm : 13.60 Tolerance mm : + 0.15
Tolerance 1/min : + 5	Total disce into
rack travel mm : 4.00	
	ANEROID/ALTITUDE
rack travel mm : 0.85	+ COMPENSATOR TEST
Tolerance mm : + 0.55 Rated speed rpm : 1250	· · · †
Rated speed rpm : 1250	† <u></u>
	+ SETTING
Rated speed rpm : 1097	Rated speed rpm : 500
rack travel mm : 11.80	├ Pressure hPa : 800
	+ rack travel mm : 14.00
Rated speed rpm : 1127	Tolerance mm : +- 0.10
Tolerance 1/min : + 5	+
rack travel mm : 4.00	+ Rated speed rpm : 500
	+ Pressure hPa : - + rack travel mm : 9.00 + Tolerance mm : + 0.10
rack travel mm : 0.85 Tolerance mm : + 0.55	+ rack travel mm : 9.00 + Tolerance mm : +- 0.10
Rated speed rpm : 1250	Toterance mm : + 0.10
Nated speed (piii . 1250	T MEASUREMENT
	- +
LOW IDLE	Rated speed rpm : 500
	†
control lever	+ Pressure hPa : 325
position degree : 73.0	+ rack travel mm : 11.15 + Tolerance mm : + 0.20
tolerance degree : + 4.0	T Total alice han . F- 0.20
total and adgree . The tro	Pressure hPa : 550
Setting point w/out bumper spring	rack travel mm : 13.45
, ,	+ Tolerance mm : + 0.05
Rated speed rpm : 650	+
rack travel mm : 5.00 Tolerance mm : + 0.10	†
Tolerance mm : + 0.10	FUEL DEL YUEDV CHARACTERYOTTO
Testing:	FUEL DELIVERY CHARACTERISTICS
rescaig.	
Rated speed rpm : 650	Aneroid pressure
rack travel mm : 5.50 Tolerance mm : + 0.10	
Tolerance mm : +- 0.10	+ hPa : - Rated speed rpm : 500
	+ Del. quantity
rack travel mm : 2.00	+ cm3/1000 strokes : 77.0
Rated speed rpm : 780 Tolerance 1/min : +- 30	+ Tolerance + cm3/1000 strokes : +- 2.0
Tolerance 1/min : +- 30	Theck tolerance
	- Check tolerance : +- 4.5
TORQUE CONTROL	+ 1.5
Rated speed rpm : 750	+
rack travel mm : 14.00 Tolerance mm : + 0.10	+
Tolerance mm : + 0.10	+ STARTING FUEL DELIVERY
	4

Rated speed rpm	: 100
rack travel mm	: 20.00
Tolerance mm	: ← 0.20
Del. quantity	
cm3/1000 strokes	: 197.0
Tolerance	
cm3/1000 strokes	: <del>+-</del> 10.0
Check tolerance	
cm3/1000s.	: <b>←</b> 13.0

## LOW IDLE

Rated speed rpm : 650 Rack travel in mm: 5.50 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : ← 3.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance 5.5 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98 Test oil : ISO 4113

Combination No. : 0 400 876 425

Injection pump

Fump designation: PES6A95D41URS2864 EP type number: 0 410 896 888

Governor

Governer design. : RSV400...1050A2C2263

: -7L

Governer no. : 0 420 232 606

Cust. part No. : 87 801 601

Customer-spec. information

Customer : FNH-GEOTECH

Motor : 7.5 L Power KW : 149.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 8 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.60
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

. 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance *NW : +- 0.75

## BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 14.10 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 151.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. :  $\leftarrow$  3.0

Spreed

H05

Tolerance cm3/1000 strokes :	3.5	Check tolerance cm3/1000s.	: 8.0
Check tolerance cm3/1000s. :	8.0		
		CONTROL LEVER	
Rated speed rpm :	650	control lever position degree tolerance degree	
Rack travel in mm : Tolerance mm : H Del. quantity		ASSEMBLY GOVERNOR	
cm3/1000 strokes : Tolerance	20.0	Rated speed rpm	
cm3/1000 strokes : 4 Check tolerance	- 2.0	rack travel mm	
	- 4.5 T	Rated speed rpm Tolerance 1/min rack travel mm	: <del>←</del> 5
cm3/1000 strokes : Check tolerance	5.5	rack travel mm	
cm3/1000s. :	9.0	Tolerance mm Rated speed rpm	: + 0.55
(B) SETTING OF INJECT WITH GOVERNOR	TON PUMP	Rated speed rpm rack travel mm	
GUIDE SLEEVE POSITION		Rated speed rpm Tolerance 1/min rack travel mm	: +- 5
control lever position degree : - Rated speed rpm :	800	rack travel mm Tolerance mm Rated speed rpm	
Rack travel in mm : Tolerance mm : + governor spring	0.50 - 0.20	Rated speed rpm rack travel mm	: 1080 : 11.70
pre-tension click setting x :	2.50	Rated speed rpm Tolerance 1/min rack travel mm	: 1107 : + 5 : 4.00
FULL LOAD DELIVERY AT	FULL LOAD STOP	rack travel mm Tolerance mm	: 0.85 : +- 0.55
Rated speed rpm : Aneroid pressure	800	Rated speed rpm	: 1250
hPa : Del. quantity cm3/1000 strokes :	1200	Rated speed rpm rack travel mm	: 1081 : 11.70
Check tolerance	- 1.0 - 3.0	Rated speed rpm Tolerance 1/min rack travel mm	: 1108 : + 5 : 4.00
Spreed Tolerance cm3/1000 strokes :	3.5	rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1250

Rated speed rpm rack travel mm	: 1082 : 11.70
Rated speed rpm Tolerance 1/min rack travel mm	: 1109 : ← 5 : 4.00
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1250
Rated speed rpm rack travel mma	: 1083 : 11.70
Rated speed rpm Tolerance 1/min rack travel mm	<b>: ←</b> 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1250
LOW IDLE	
control lever position degree tolerance degree	: 78.0 : +- 4.0
Setting point w/o	ut bumper spring
Setting point w/o Rated speed rpm rack travel mm Tolerance mm	: 650
Rated speed rpm rack travel mm	: 650
Rated speed rpm rack travel mm Tolerance mm	: 650
Rated speed rpm rack travel mm Tolerance mm Testing: Rated speed rpm rack travel mm	: 650 : 4.00 : ← 0.10 : 650 : 4.50 : ← 0.10 : 2.00 : 740
Rated speed rpm rack travel mm Tolerance mm Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm	: 650 : 4.00 : ← 0.10 : 650 : 4.50 : ← 0.10 : 2.00 : 740
Rated speed rpm rack travel mm Tolerance mm Testing: Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min TORQUE CONTROL Rated speed rpm rack travel mm	: 650 : 4.00 : ← 0.10 : 650 : 4.50 : ← 0.10 : 2.00 : 740 : ← 30 : 800 : 14.10 : ← 0.10

rack travel mm Tolerance mm	: 11.90 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1030 : 12.70 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 950 : 13.35 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 7.80 : +- 0.05
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 775 : 13.50 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 520 : 11.10 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: - : 500
Del. quantity cm3/1000 strokes	: 70.5
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 1.0 : + 3.0

Rated speed rpm : 100

rack travel mm : 20.00
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 160.0
Tolerance
cm3/1000 strokes : + 8.0
Check tolerance
cm3/1000s. : + 11.0

## LOW IDLE

Rated speed rpm : 650 Rack travel in mm: 4.50 : ← 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s.: **←** 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s.9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.02.98 : ISO 4113

Combination No. : 0 400 876 430

Injection pump

Pump designation : PES6A95D41ORS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A0C2263

: -10L

Governer no.

: 0 420 232 619

Cust. part No. : 87 801 603

Customer-spec. information

Customer : FNH-GEOTECH

Motor

: P 396

Power KW

: 142.0

#### TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : + 1.0

: 2.60 Prestroke mm : **←** 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 15.20

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 154.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : ← 3.0	Check tolerance cm3/1000S. : +- 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 97.0 tolerance degree : +- 4.0
Rack travel in mm: 5.60 Tolerance mm: + 0.10 Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 15.0 +	
Tolerance + cm3/1000 strokes : + 2.0 +	Rated speed rpm : 1093 rack travel mm : 12.40
Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance	Rated speed rpm : 1158 Tolerance 1/min : + 5 rack travel mm : 4.00
cm3/1000 strokes : 5.5 Check tolerance	rack travel mm : 0.85
cm3/1000s. : 9.0	Tolerance mm : +- 0.55 Rated speed rpm : 1270
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Ruted speed rpm : 1094 rack travel mm : 12.40
GUIDE SLEEVE POSITION	Rated speed rpm : 1159 Tolerance 1/min : + 5 rack travel mm : 4.00
control lever position degree : - 3 Rated speed rpm : 800	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1270
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring	Rated speed rpm : 1095 rack travel mm : 12.40
pre-tension click setting x : 4.00	Rated speed rpm : 1160 Tolerance 1/min : +- 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1270
Rated speed rpm : 750 Aneroid pressure hPa : 1200	Rated speed rpm : 1270
Del. quantity cm3/1000 strokes : 154.0	Rated speed rpm : 1096 rack travel mm : 12.40
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1161 Tolerance 1/min : +- 5

rack travel mm	: 4.00	+ Rated speed rpm	: 500
		rack travel mm	: 15.25
rack travel mm	: <b>0.8</b> 5	+ Tolerance mm	: ← 0.10
Tolerance mm	: ← 0.55	+	
Tolerance man Rated speed rpm	: 1270	+ Rated speed rpm	: 1050
		+ rack travel mm	: 12.90
		rack travel mm Tolerance mm	: +- 0.05
Rated speed rpm	: 1097	1	
rack travel mm	: 12.40	Rated speed rpm	· 1050
		rack travel mm	
Rated speed rpm	: 1162	Tolerance mm	: + 0.10
Tolerance 1/min		1 Ocer as tee man	
rack travel mm		Rated speed rom	• 950
1 4011 01 4100 11111		Rated speed rpm rack travel mm Tolerance mm	. 14 25
rack travel am	• 0.85	Tolerance mm	. (4.2)
Tolerance mm		T 10 Cel ou ice ilini	
Rated speed rpm	1270	Τ	
Mateu speed i pii	. 1210	ANEROID/ALTITUDE	
Datad sanad san	• 1009	COMPENSATOR TEST	
Rated speed rpm	: 1098 : 12.40	Ţ	
rack travel mm	. 12.40	T CETTALS	
Datas as a second	. 11/7	+ SETTING	
Rated speed rpm		T Dodaid amount our	. 500
Tolerance 1/min		+ Rated speed rpm	: 500
rack travel mm	: 4.00		: 1200
	2.25		: 15.25
rack travel mm	: 0.85	+ Tolerance mm	: ← 0.10
Tolerance mm	: ← 0.55	<b>†</b>	
Rated speed rpm	: 12/0		: 500
		+ Pressure hPa	: -
		+ rack travel mm	10.80
LOM IDLE		† Tolerance mm	: <del>←</del> 0.05
		<b>†</b>	
		+ MEASUREMENT	
control lever		+	_
position degree	: 75.0	+ Rated speed rpm	: 500
tolerance degree	; ← 4.G	+	
			: 750
Setting point w/o	out bumper spring	+ rack travel mm	: 13.70
	-	† Tolerance mm	: <b>←</b> 0.05
Rated speed rpm	: 450	+	
rack travel mm Tolerance mm	: 5.10	+ Pressure hPa	: 500
Tolerance mm	: ← 0.10	🕂 rack travel mm	: 17.80
		Pressure hPa rack travel mm Tolerance mm	: +- 0.20
Testing:		+	•
•		+	
Rated speed rpm	: 450	1	
rack travel mm	: 5.60	FUEL DELIVERY CHAR	ACTERISTICS
rack travel mm Tolerance mm	: +- 0.10	+	· · - · <del>- · · · · · · · · · · · · · · ·</del>
		1	
rack travel mm	: 2.00	+ Aneroid pressure	
rack travel mm Rated speed rpm	: 575		: -
Tolerance 1/min	: +- 30	hPa Rated speed rpm	: 500
		Del quantity	. 200
		+ Del. quantity + cm3/1000 strokes	• 98.5
TORQUE CONTROL		Tolerance	. 70.3
Rated sneed rom	• 750	cm3/1000 strokes	· +- 1 n
rack traval mm	• 15 20	+ Check tolerance	
Rated speed rpm rack travel mm Tolerance mm	· +- 0 05	- cm3/1000s.	• ֈ ় ়েক
IULCIGILE IMM	· · · · · · · · · · · · · · · · · · ·	T (110) (000).	. r ^{ee} sa∪
		Ť	

## STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 163.0
Tolerance
cm3/1000 strokes : + 8.0
Check tolerance
cm3/1000s. : + 11.0

## LOW IDLE

Rated speed rpm : 450 Rack travel in mm : 5.60 Tolerance mm : **←** 0.10 Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See a procard(s) W400/...

Edition Test oil

: 23.02.98 : ISO 4113

Combination No. : 0 400 876 434

Injection pump

Pump designation : PES6A95D41ORS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A8C2263

: -11L

Governer no.

: 0 420 232 635

Cust. part No. : 87 801 607

Customer-spec. information

Customer Motor

: NH : P 396

Power KW

: 176.0

#### TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 2.60

Tolerance mm

: ← 0.05

Check

tolerance mm:  $\leftarrow 0.10$ 

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order

: 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance

: + 0.50

Check

tolerance *NW

: **←** 0.75

Start of delivery mark

Tolerance

: **←** 0.50

Check

tolerance *NW

: **←** 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm: 13.70

Tolerance mm :  $\leftarrow$  0.10

H13

Del. quantity +	Aneroid pressure
cm3/1000 strokes : 135.0	hPa : 1200 Del. quantity
Tolerance cm3/1000 strokes : + 1.0	<b>cm3/1000</b> strokes : 135.0
	Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 3.0	Check tolerance cm3/1000s. : +- 3.0
+	Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance + cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 8.0
Check tolerance	
cm3/1000s. : 8.0	
	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 97.0
+	tolerance degree : +- 4.0
Rack travel in mm: 5.75 + Tolerance mm : +- 0.10 +	
Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 12.0	Rated speed rpm : 1095
cm3/1000 strokes : + 2.0 + Check tolerance	rack travel mm : 11.10
cm3/1000s. : + 4.5	Rated speed rpm : 1165
Spreed +	Tolerance 1/min : +- 5 rack travel mm : 4.00
cm3/1000 strokes : 5.5	
Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
1	Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	Rated speed rpm : 1096 rack travel mm : 11.10
+	
GUIDE SLEEVE POSITION	Rated speed rpm : 1166 Tolerance 1/min : +- 5
<u> </u>	rack travel mm : 4.00
control lever	rack travel mm : 0.85
position degree : -3 + Rated speed rpm : 800 +	Tolerance mm : +- 0.55 Rated speed rpm : 1300
Rack travel in mm: 0.50	
Tolerance mm : + 0.20	Rated speed rpm : 1097
governor spring	rack travel mm : 11.10
pre-tension click setting x : 4.50	Rated speed rpm : 1167
click setting x : 4.50	Tolerance 1/min : +- 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85
+	Tolerance mm : + 0.55
Rated speed rpm : 700	Rated speed rpm : 1300
'	

Rated speed rpm	: 1098
rack travel mms	: 11.10
Rated speed rpm	: 1168
Tolerance 1/min	: ← 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
Rated speed rpm	: 1099
rack travel mm	: 11.10
Rated speed rpm	: 1169
Tolerance 1/min	: + 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300
Räted speed rpm	: 1100
rack travel mm	: 11.10
Rated speed rpm	: 1170
Tolerance 1/min	: ← 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1300
LOW IDLE	
control lever position degree tolerance degree Testing:	: 78.0 : +- 4.0
Rated speed rpm	: 450
rack travel mm	: 5.75
Tolerance mm	: ← 0.10
rack travel mm	: 2.00
Rated speed rpm	: 585
Tolerance 1/min	: +- 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.70 : + 0.10

Rated speed rpm rack travel mm Tolerance mm	: 500 : 13.75 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.20 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.50 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 13.75 : +- 0.10
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.75 : +- 0.05
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 650 : 12.65 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 450 : 11.10 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 500
cm3/1000 strokes Tolerance	: 80.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 3.0

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	20.25
Tolerance mm	: +-	0.75
Del. quantity		
cm3/1000 strokes	:	164.0
Tolerance		
cm3/1000 strokes	: +-	8.0
Check tolerance		
cm3/1000s.	: +-	11.0
	_	

# LOW IDLE

Rated speed rpm	:		450
Rack travel in mm Tolerance mm		+-	5.75 0.10
Del. quantity .cm3/1000 strokes Tolerance	:		12.0
cm3/1000 strokes Check tolerance	:	+-	2.0
cm3/1000s. Spreed Tolerance	:	+	4.5
cm3/1000 strokes Check tolerance	:		5.5
cm3/1000s.	:		9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98 Test oil : ISO 4113

combination No. : 0 400 876 435

Injection pump

Pump designation : PES6A95D410RS2864 EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A8C2263

: -12L

Governer no. : 0 420 232 636

Cust. part No. : 87 801 605

Customer spec. information Customer : NH Motor : 7.5 L Power KW : 185.0

## TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. *C : 40
Tolerance *C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0

Prestroke mm : 2.60
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 13.45 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 139.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

	1 - 1
Spreed	+ Tolerance + cm3/1000 strokes : 3.5
opi eeu	+ Check tolerance
Tolerance	+ cm3/1000s. : 8.0
cm3/1000 strokes : 3.5	I (m5) 10003.
5.5	Ţ
Check tolerance	
cm3/1000s. : 8.0	CONTROL LEVER
	+
	+ control lever
	+ position degree : 94.0
Rated speed rpm : 650	tolerance degree : + 4.0
Deal desiral de em s / 00	†
Rack travel in mm: 4.90 Tolerance mm: +- 0.10	ASSEMBLY GOVERNOR SETTING
Del. quantity	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : 20.0	Rated speed rpm : 1058
Tolerance	+ Rated speed rpm : 1058 + rack travel mm : 11.40
cm3/1000 strokes : +- 2.0	rack crayed man . 11.40
Check tolerance	- Rated speed rpm : 1091
cm3/1000s. : + 4.5	+ Tolerance 1/min : + 5
Spreed	+ rack travel mm : 4.00
Tolerance	+
cm3/1000 strokes : 5.5	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 9.0	+ Rated speed rpm : 1250
	+
	+
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1059
WITH GOVERNOR	+ rack travel mm : 11.40
	1003
	+ Rated speed rpm : 1092 + Tolerance 1/min : + 5
GUIDE SLEEVE POSITION	+ Tolerance 1/min : + 5 + rack travel mm : 4.00
GOIDE SEELVE POSITION	I rack cravec mm . 4.00
	rack travel mm : 0.85
control lever	Tolerance mm : + 0.55
position degree : - 3	+ Rated speed rpm : 1250
Rated speed rpm : 800	+
·	+
Rack travel in mm: 0.50	+ Rated speed rpm : 1060
Tolerance mm : + 0.20	+ rack travel mm: : 11.40
	†
governor spring	+ Rated speed rpm : 1093
pre-tension	+ Tolerance 1/min : + 5
click setting $x$ : 3.50	rack travel mm : 4.00
	† rack travel mm : 0.85
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Tolerance mm : + 0.55
TOLL FOUR RELIGION WILLIAMS FOUR OLDS	Rated speed rpm : 1250
Rated speed rpm : 800	+ 1.000 3,000 1,000
Aneroid pressure	+
hPa : 1200	Rated speed rpm : 1061
Del. quantity	+ rack travel mm : 11.40
cm3/1000 strokes : 139.5	+
Tolerance	Rated speed rpm : 1094
cm3/1000 strokes : +- 1.0	+ Tolerance 1/min : +- 5
Check tolerance	† rack travel mm : 4.00
$cm3/1000s.$ : $\leftarrow$ 3.0	+
Spreed	+ rack travel mm : 0.85

Tolerance mm Rated speed rpm	: ← 0.55 : 1250	rack travel mm : 12.40 Tolerance mm : + 0.10
Rated speed rpm rack travel mm	: 1062 : 11.40	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm Tolerance 1/min rack travel mm	: 1095 : +- 5 : 4.00	SETTING
rack travel mm Tolerance mm Rated speed rpm		Rated speed rpm : 500 Pressure hPa : 1200 rack travel mm : 13.50 Tolerance mm : +- 0.10
Rated speed rpm rack travel mm	: 11.40	Rated speed rpm : 500 Pressure hPa : - rack travel mm : 8.10 Tolerance mm : + 0.05
Rated speed rpm Tolerance 1/min rack travel mm	: +- 5	MEASUREMENT
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1250	Rated speed rpm : 500  Pressure hPa : 750  rack travel mm : 12.40
LOW IDLE		Tolerance mm : + 0.05  Pressure hPa : 550  rack travel mm : 10.00  Tolerance mm : + 0.20
control lever position degree tolerance degree Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 4.90	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
rack travel mm Rated speed rpm Tolerance 1/min	: 740	cm3/1000 strokes : 68.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance
TORQUE CONTROL Rated speed rpm rack travel mm	: 800 : 13.45	- cm3/1000s. : + 3.0
Tolerance mm	: ← 0.10	STARTING FUEL DELIVERY
Rated speed rpm rack travel mm Tolerance mm		Rated speed rpm : 100 + rack travel mm : 20.25 + Tolerance mm : + 0.75 + Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 11.90	- cm3/1000 strokes : 160.0 - Tolerance - cm3/1000 strokes : + 8.0
Rated speed rpm	: 1025	+ Check tolerance + cm3/1000s. : + 11.0

# LOW IDLE

Rated speed rpm	:	650
Rack travel in mm Tolerance mm Del. quantity	: : +-	4.90 0.10
cm3/1000 strokes	:	20.0
744000	<b>:</b> ←	2.0
cm3/1000s. Spreed	: +-	4.5
Tolerance cm3/1000 strokes Check tolerance	:	5.5
cm3/1000s.	:	9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

**Edition** Test oil

: 25.02.98 : ISO 4113

Combination No. : 9 400 030 669

Injection pump

Pump designation : PES6A100b320/3RS3503

EP type number : 9 410 037 213

Governor

Governer design. : RQV400...1250AB1301R

Governer no.

: 9 420 030 158

Cust. part No. : TATA-CUMMINS

Customer-spec. information Customer : CUMMINS Motor : 6BTAA Power KW : 118.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2;

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

: 9 451 037 430 Overflow valve

Inlet press. bar : 2.0 : + 0.1 Tolerance bar

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

207.0 bar Tolerance bar : +- 3.0

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm 3.10 : +- 0.05 Tolerance mm Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 : <del>←</del> 1.50 Tolerance mm

: 1-5- 3- 6- 2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 : +- 0.10 Tolerance

Check

tolerance *NW : **←** 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 11.75

Tolerance mm	: ← 0.05
Rack travel in mm Tolerance mm	: 6.00 : ← 0.10
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP
SUIDE SLEEVE TRAVE	EL
Rated speed rpm guide sleeve	•
travel mm Tolerance mm	: 8.48 : +- 0.15
Rated speed rpm guide sleeve	: 400
travel mm Tolerance mm	: 1.71 : + 0.20
Rated speed rpm	
guide sleeve	
travel mm Tolerance mm	: 4.97 : + 0.25
Rated speed rpm guide sleeve	: 499
travel mm Tolerance mm	: 2.75 : + 0.25
Rated speed rpm	
guide sleeve	
travel mm Tolerance mm	: 3.30 : + 0.25
Rated speed rpm guide sleeve	: 560
travel mm	: 3.37
Tolerance mm	: 3.37 : + 0.25
Rated speed rpm guide sleeve	: 1620
travel mm	: 11.50
Tolerance mm	: <b>+</b> 0.50
GUIDE SLEEVE POSIT	LION
Rated speed rpm	: 1250
Rack travel in man Tolerance man	: 16.00 : ← 1.30

CONTROL LEVER	
control lever position degree tolerance degree	: 61.0 : ← 4.0
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 10.75 : 1300 : ← 5
rack thavel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1425 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1485
LOW IDLE	
control lever position degree tolerance degree	: 15.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 100
CRT mm min.	: > 9.00
Testing:	
Rated speed rpm rack travet mm Toterance mm	: 400 : 6.90 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 625 : +- 30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1000 : 11.75 : + 0.05
	: 750
Rated speed rpm rack travel mm Tolerance mm	: 11.75 : + 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

Rated speed rpm : 550
Pressure hPa : 600
rack travel mm : 11.75
Tolerance mm : + 0.10

Rated speed rpm : 550
Fressure hPa : rack travel mm : 10.20
Tolerance mm : +- 0.10

## MEASUREMENT

Rated speed rpm : 550

Pressure hPa : 400 rack travel mm : 11.20 Tolerance mm : + 0.20

Pressure hPa : 340 rack travel mm : 10.80 Tolerance mm : + 0.20

## Start interlock

Rated speed rpm : > 170 Rated speed rpm : > 300

Check

speed 1/min : < 190

Check

speed 1/min : < 340

#### FUEL DELIVERY CHARACTERISTICS

rack travel mm : 11.75
Tolerance mm : + 0.10

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 12.00 Tolerance mm : + 0.75

LOW IDLE

H23

Rack travel in mm : 6.00 Tolerance mm : + 0.10

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 14.02.98 : ISO 4113

Combination No. : 9 400 030 751

Injection pump

Pump designation : PES6A95D32D/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1050A00866R

Governer no.

: F 002 A20 202

Cust. part No. : 393 0158

Customer-spec. information

Customer

: CUMMINS

Motor Power KW

: 6BT : 94.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: **←** 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

17.0 Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.50

Check

tolerance 'NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance : +- 0.10

Check

tolerance *NW : <del>+-</del> 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.40

Tolerance mm:  $\leftarrow 0.05$ 

Del. quantity	Aneroid pressure
cm3/1000 strokes : 90.3	hPa : 950 Del. quantity
Tolerance - cm3/1000 strokes : + 1.0 -	cm3/1000 strokes : 90.3 Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : +- 3.0	- cm3/1000s. : + 3.0 - Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Tolerance - cm3/1000 strokes : 4.0 -	Check tolerance cm3/1000s. : 6.5
Check tolerance	
cm3/1000s. : 6.5	CONTROL LEVER
-	control lever
Rated speed rpm : 475	position degree : 102.0
Rack travel in mm: 6.75	tolerance degree : +- 4.0
Tolerance mm : + 0.10	RATED SPEED
Del. quantity - cm3/1000 strokes : 18.6 -	rack travel mm : 11.40 Rated speed rpm : 1095
Tolerance	- Rated speed rpm : 1095 - Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	100000000000000000000000000000000000000
Check tolerance -	rack travel mm : 4.00
cm3/1000s. : + 4.5	Rated speed rpm : 1190
Spreed - Tolerance -	Tolerance 1/min : +- 15
cm3/1000 strokes : 6.0	rack travel mm : 0.85
Check tolerance -	Tolerance mm : + 0.55
cm3/1000s. : 8.0 -	Rated speed rpm : 1280
-	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1200
WITH GOVERNOR -	Tolerance 1/min : +- 15
-	
GUIDE SLEEVE POSITION -	
GOIDE SEEEVE POSITION	LOW IDLE
control lever	<b>_</b>
position degree : -3	control lever
Rated speed rpm : 800 -	position degree : 84.0
Rack travel in mm: 0.50	tolerance degree : +- 4.0
Tolerance mm : +- 0.20 -	Control lever difference
-	Grad : 18.0
governor spring -	tolerance degree : +- 4.0
pre-tension -	Catting maint offert home as assistant
click setting x : 4.00 -	Setting point w/out bumper spring
FILL LOAD DELTHEDY AT FILL LOAD CTOD	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 6.25 Tolerance mm : + 0.10
Rated speed rpm : 1050	Total differ like
, ,	Rated speed rpm : 100

		+ Del. quantity
CRT mm min.	: > 19.50	cm3/1000 strokes : 103.0 Tolerance
Testing:		+ cm3/1000 strokes : +- 2.0
Rated speed rpm rack travel mm Tolerance mm	: 6.75	Check tolerance : +- 4.0
		Aneroid pressure
rack travel mm Rated speed rpm Tolerance 1/min	: 610 : +- 30	hPa : - Rated speed rpm : 650 Del. quantity
		cm3/1000 strokes : 88.5
TORQUE CONTROL Rated speed rpm	: 1050	cm3/1000 strokes : +- 1.0 Check tolerance
rack travel mm Tolerance mm	: 12.40	+ cm3/1000s. : + 3.0
Rated speed rpm rack travel mm Tolerance mm	: 800 : 13.35	STARTING FUEL DELIVERY
Tolerance mm	: ← 0.10	Poted anadam . 100
		Rated speed rpm : 100 rack travel mm : 20.50
ANEROID/ALTITUDE		+ Tolerance mm : ← 0.50
COMPENSATOR TEST	•	+ Del. quantity + cm3/1000 strokes : 121.0 + Tolerance
SETTING		- cm3/1000 strokes : + 10.0 Check tolerance
Rated speed rpm	: 650	+ cm3/1000s. : +- 15.0
Pressure hPa	: 950	†
rack travel mm Tolerance mm		‡
Rated speed rpm	: 650	LOW IDLE
Pressure hPa	: -	+
rack travel mm	: 12.00	Rated speed rpm : 475
Tolerance mm	: <del>-</del> 0.10	Rack travel in mm : 6.75
MEASUREMENT		Tolerance mm : +- 0.10  Del. quantity
Rated speed rpm	: 650	cm3/1000 strokes : 18.6 Tolerance
Pressure hPa	: 850	+ cm3/1000 strokes : $+$ 2.0
rack travel mm		+ Check tolerance
Tolerance mm	: <b>←</b> 0.20	- cm3/1000s. : +- 4.5 - Spreed
Pressure hPa	: 800	Tolerance
rack travel mm Tolerance mm		+ cm3/1000 strokes : 6.0 + Check tolerance
Toterance mm	: +- 0.20	cm3/1000s. : 8.0
FUEL DELIVERY CH	ARACTERISTICS	_
Aneroid pressure		End of test specification sheet
hPa	: 950 : 800	†
Rated speed rpm	; OUU	†

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 20.02.98 : ISO 4113

Combination No. : F 002 ADZ 051

Injection pump

Pump designation : PES4A95D320/3RS2920

EP type number : F 002 A10 012

60vernor

Governer design. : RSV475...1050A0C931R

Governer no.

: F 002 A20 237

Cust. part No. : 3283921

Customer-spec. information

Customer : CUMMINS

Motor

: CUMMINS-4BTA-3.9

Power KW : 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

: 208.5

Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestruke mm : 2.45 : +- 0.05 Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasina : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 9.00 Tolerance : **←** 0.10

Check

tolerance *NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 13.30 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 115.0

Tolerance +	- Tolerance
cm3/1000 strokes : + 1.0	- cm3/1000 strokes : + 1.0
	Check tolerance
Check tolerance	$- \text{ cm}^3/1000\text{s}. : + 3.0$
cm3/1000s. : + 3.0	Spreed
CH27 10000:	- Tolerance
Spreed	- cm3/1000 strokes : 4.0
spreed	
Talamana	- Check tolerance
Tolerance	- cm3/1000s. : 6.5
cm3/1000 strokes : 4.0 +	•
	•
Check tolerance	
cm3/1000s. : 6.5	- CONTROL LEVER
	•
†	- control lever
· · · · · · · · · · · · · · · · · · ·	- position degree : 101.0
Rated speed rpm : 475	tolerance degree : + 4.0
<u>-</u> _	•
Rack travel in mm: 6.25	RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 12.30
Del. quantity	- Rated speed rpm : 1110
cm3/1000 strokes : 22.0	- Tolerance 1/min : +- 5
Tolerance	•
cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance	- Rated speed rpm : 1195
cm3/1000s. : + 4.5	Tolerance 1/min : + 5
Spreed	· ·
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 6.0	- Tolerance mm : +- 0.55
Check tolerance	- Rated speed rpm : 1500
cm3/1000s. : 8.0	rated speed this . 1900
CHD/10005 0.0	rack travel mm : 4.00
T	
(B) SETTING OF INJECTION PUMP	
	Tolerance 1/min : + 15
WITH GOVERNOR +	•
7	•
†	•
CULTURE OF CREEKE DOCUTEDAN	LOUIZOUE
GUIDE SLEEVE POSITION	- LOW IDLE
†	•
†	•
control lever	control lever
position degree : FREE +	position degree : 81.0
Rated speed rpm : 800 +	tolerance degree : +- 4.0
†	
Rack travel in mm: 0.50	- Control lever difference
Tolerance mm : + 0.20 +	- Grad : 20.0
. +	tolerance degree : + 4.0
governor spring +	•
pre-tension -	<ul> <li>Setting point w/out bumper spring</li> </ul>
click setting x : 2.50	•
4	- Rated speed rpm : 475
+	rack travel mm : 5.75
FULL LOAD DELIVERY AT FULL LOAD STOP	· Tolerance mm : + 0.10
	•
Rated speed rpm : 1050	Rated speed rpm : 100
Aneroid pressure	
hPa : 900	CRT mm min. :> 19.00
Del. quantity	
cm3/1000 strokes : 115.0	Testing:

Rated speed rpm rack travel mm Tolerance mm rack travel mm Rated speed rpm Tolerance 1/min		
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1050 : 13.30 : + 0.05	
Rated speed rpm rack travel 神庙 Tolerance mm		
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa	: 500 : 900	
Rated speed rpm Pressure hPa rack travel m/m Túlerance mm	: 500 : - : 10.85 : + 0.20	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 600 : 13.00 : ← 0.20	
Pressure hPa rack travel mm Tolerance mm	: 400 : 11.70 : + 0.20	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes		
Tolerance cm3/1000 strokes	: <b>←</b> 2.0	

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		75.9
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	3.0

## STARTING FUEL DELIVERY

Rated speed rpm	: 100
rack travel mm	: 20.50
Tolerance mm	: + 0.50
Del. quantity	
cm3/1000 strokes	: 121.4
Tolerance	
cm3/1000 strokes	: <b>←</b> 10.0
Check tolerance	
cm3/1000s.	: <b>←</b> 15.0

## LOW IDLE

Rated speed rpm	:	475	
Rack travel in mm Tolerance mm	: : +-	6.25 0.10	
Del. quantity cm3/1000 strokes	:	22.0	
Tolerance cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000S. Spreed	: +-	4.5	
Tolerance cm3/1000 strokes	:	6.0	
Check tolerance cm3/1000s.	:	8.0	

End of test specification sheet

Check tolerance cm3/1000s. : + 4.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 12.02.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 092

Injection pump

Pump designation : PES6A95D320/3RS2928

EP type number : F 002 A10 019

6overnor

Governer design. : RSV450...750A4C965R

Governer no. : F 002 A20 251

Cust. part No. : 393 3100

Customer-spec. information Customer : CUMMINS : 6BT - 590 Motor Power KW : 89.4

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 : + 2.0 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

## **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 2.85 : +- 0.05 Tolerance mm Check : +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance m : + 1.50

Firing order : 1-5-3-6-2

: - 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance :  $\leftarrow$  0.50 Check

tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 11.75 Tolerance mm:  $\leftarrow 0.05$ 

Del. quantity

cm3/1000 strokes : 110.0

Talamana	
Tolerance cm3/1000 strokes : + 1.0	Tolerance
CM3/ 1000 Strokes : + 1.0	+ cm3/1000 strokes : + 1.0
Check tolerance	Check tolerance
cm3/1000s. $: + 3.0$	+ cm3/1000s. : + 3.0
CRIS/ 1000S. : 7 3.0	+ Spreed
Company of the compan	+ Tolerance
Spreed	+ cm3/1000 strokes : 4.0
	+ Check tolerance
Tolerance	+ cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	+
	+
Check tolerance	
cm3/1000s. : 6.5	+ CONTROL LEVER
	+
	+ control lever
	position degree : 96.0
Rated speed rpm : 450	+ tolerance degree : +- 4.0
. ,	+
Rack travel in mm : 7.50	+ RATED SPEED
Tolerance mm : + 0.10	+ rack travel mm : 10.70
Del. quantity	+ Rated speed rpm : 800
cm3/1000 strokes : 14.5	+ Tolerance 1/min : +- 5
Tolerance	1 Total dillo 17 mill
cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 855
cm3/1000s. : + 4.5	Tolerance 1/min : + 5
Spreed . — 4.5	Toterance min : T
Tolerance	T made Amount am
	+ rack travel mm : 0.85
cm3/1000 strokes : 6.0	+ Tolerance mm : + 0.55
Check tolerance	+ Rated speed rpm : 950
cm3/1000s. : 8.0	†
	+ rack travel mm : 4.00
	+ Rated speed rpm : 865
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : + 15
WITH GOVERNOR	†
	<b>‡</b>
GUIDE SLEEVE POSITION	LOW IDLE
	+
control lever	+ control lever
position degree : FREE	+ position degree : 81.0
Rated speed rpm : 800	+ tolerance degree : +- 4.0
·	+
Rack travel in mm: 0.50	+ Control lever difference
Tolerance mm : + 0.20	+ Grad : 15.0
	+ tolerance degree : +- 6.0
governor spring	1
pre-tension	Setting point w/out bumper spring
click setting x : 4.75	account bouse avoir position shi ind
Tella decenia y tella	Rated speed rpm : 450
	+ Rated speed rpm : 450 + rack travel mm : 7.00
FULL LOAD DELIVERY AT FULL LOAD STOP	
LOTE FOUN DEFENDENT AT LOTE FOUN 2105	+ Tolerance mm : + 0.10
Datad anad man : 750	T Dated aread 100
Rated speed rpm : 750	+ Rated speed rpm : 100
Aneroid pressure	†
hPa : -	+ CRT mm min. : > 19.00
Del. quantity	<b>†</b>
cm3/1000 strokes : 110.0	+ Testing:

Rated speed rpm : 450 rack travel mm : 7.50 Tolerance mm : +- 0.10

TORQUE CONTROL

Rated speed rpm : 750 rack travel mm : 11.75 Tolerance mm : + 0.05

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 118.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  10.0

Check tolerance

cm3/1000s. :  $\leftarrow$  15.0

## LOW IDLE

Rated speed rpm : 450

Rack travel in mm: 7.50
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 14.5
Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. :  $\leftarrow$  4.5

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.02.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 093

Injection pump

Pump designation : PES6A95D32D/3RS2928

EP type number : F 002 A10 019

Governor

Governer design. : RSV450...750A7C966R

Governer no. : F 002 A20 250

Cust. part No. : 3933102

Customer-spec. information Customer : CUMMINS : 6BTA-590 Motor Power KW : 116.2

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter: 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.65 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2 : - 4

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

*NW after s.o.d. : 7.50 : +- 0.50 Tolerance Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm: 13.35 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 131.0

Tolerance cm3/1000 strokes : +- 1.0	+ Tolerance + cm3/1000 strokes : + 1.0
CHO/ 1000 SEFORES . 1- 1.0	Check tolerance
Check tolerance	+ cm3/1000s. : $+$ 3.0
$cm3/1000s.$ : $\leftarrow$ 3.0	Spreed
	+ Tolerance
Spreed	- cm3/1000 strokes : 4.0
Tolerance	+ Check tolerance + cm3/1000s. : 6.5
cm3/1000 strokes : 4.0	+ cm3/1000s. : 6.5
	<b>↓</b>
Check tolerance	
cm3/1000s. : 6.5	+ CONTROL LEVER
	+ control lever
	position degree : 97.0
Rated speed rpm : 450	tolerance degree : +- 4.0
	+
Rack travel in mm: 7.30	+ RATED SPEED
Tolerance mm : + 0.10	rack travel mm : 12.30
Del. quantity cm3/1000 strokes : 8.5	+ Rated speed rpm : 795 + Tolerance 1/min : +- 5
Tolerance	+ Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 835
cm3/1000s. : + 4.5	Tolerance 1/min : +- 5
Spreed	+
Tolerance	+ rack travel mm : 0.85
cm3/1000 strokes : 6.0 Check tolerance	Tolerance mm : +- 0.55 Rated speed rpm : 950
cm3/1000s. : 8.0	+ Rated speed rpm : 950
. 0.0	rack travel mm : 4.00
	+ Rated speed rpm : 850
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : +- 15
WITH GOVERNOR	†
	1
	I
GUIDE SLEEVE POSITION	LOW IDLE
	+
control lover	t control lover
control lever position degree : FREE	+ control lever + position degree : 78.0
Rated speed rpm : 800	tolerance degree : + 4.0
The second secon	+
Rack travel in mm : 0.50	Control lever difference
Tolerance mm : + 0.20	+ Grad : 19.0
	tolerance degree : + 6.0
governor spring	Cotting point Worth human anning
pre-tension click setting x : 4.25	Setting point w/out bumper spring
CLICK SELLING X . 4.63	Rated speed rpm : 450
	rack travel mm : 6.80
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
	+
Rated speed rpm : 750	+ Rated speed rpm : 100
Aneroid pressure	CDT 10 00
hPa : - Del. quantity	+ CRT mm min. : > 19.00
cm3/1000 strokes : 131.0	Testing:
1000 001 0100 1 10 10 10 10 10 10 10 10	i cocina.

Rated speed rpm : 450 rack travel mm : 7.30 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 750 rack travel mm : 13.35 Tolerance mm : + 0.05

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 117.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : + 15.0

## LOW IDLE

Rated speed rpm : 450

Rack travel in mm : 7.30 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 04.02.98 : ISO 4113

Combination No. : 0 402 034 702

Injection pump

Pump designation : PES4P120E120RS3379

EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1250PA1380K

Governer no. : 0 421 815 560

Cust. part No. : 3933367

Customer-spec. information Customer : CDC : 4BTA-A Motor Power KW : 82.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 : +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.15 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 118.5	Tolerance mm : + 0.25
Tolerance		Rated speed rpm : 1660 guide sleeve
cm3/1000 strokes	: + 1.0	+ travel mm : 13.50 + Tolerance mm : + 0.50
Check tolerance cm3/1000S.	: + 4.0	
Spreed		FULL LOAD DELIVERY AT FULL LOAD STOP
Talamana		Rated speed rpm : 1250
Tolerance cm3/1000 strokes	: 8.0	+ Aneroid pressure + hPa : 350 + Del. quantity
Check tolerance cm3/1000s.	: 12.0	+ cm3/1000 strokes : 118.5 + Tolerance
CIID7 10000.	. 12.0	cm3/1000 strokes : + 1.0  Check tolerance
Rated speed rpm	: 475	cm3/1000s. : + 4.0 Spreed
		Tolerance
Rack travel in mm Tolerance mms		cm3/1000 strokes : 8.0 Check tolerance
Del. quantity cm3/1000 strokes		cm3/1000s. : 12.0
Tolerance cm3/1000 strokes		
Check tolerance cm3/1000s.	: +- 5.0	CONTROL LEVER
Spreed		+ control lever
Tolerance		+ position degree : 117.0
cm3/1000 strokes Check tolerance	: 4.0	tolerance degree : + 4.0
cm3/1000s.	: 8.0	+ RATED SPEED
		+ rack travel mm : 9.10
(D) SETTING OF TA	MECTAL SHE	+ Rated speed rpm : 1315
(B) SETTING OF IA WITH GOVERNOR	MECITON FORB	+ Tolerance 1/min : ← 15
		rack travel mm : 4.00 Rated speed rpm : 1400
GUIDE SLEEVE TRAV	/EL	Tolerance 1/min : + 5
Rated speed rpm guide sleeve	: 1312	rack travel mm : 0.50 Tolerance mm : + 0.50
travel mm	: 9.56	Rated speed rpm : 1500
Tolerance mm	: + 0.15	Thatea speed ipin . 1900
Rated speed rpm guide sleeve	: 475	
travel mm	: 1.75	+ LOW IDLE
Tolerance mm	: +- 0.20	
Rated speed rpm guide sleeve	: 993	control lever position degree : 73.0
travel mm	: 6.53	+ tolerance degree : + 4.0
Tolerance mm	: + 0.25	+
Rated speed rpm	: 680	Control lever difference Grad: 44.0
guide sleeve travel mm	: 3.84	tolerance degree : +- 6.0

Setting point w/out bumper spring	† Charl
Rated speed rpm : 400	+ Check + speed 1/min :> 80 + Check
CRT mm min. :> 6.80	speed 1/min : < 350
Testing:	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 475 - rack travel mm : 5.50 -	
Tolerance mm : ← 0.10	Aneroid pressure hPa: 350
Rated speed rpm : 550	Rated speed rpm : 750 Del. quantity
TORQUE CONTROL	cm3/1000 strokes : 110.5 Tolerance
Rated speed rpm : 1250 - rack travel mm : 10.15 - Tolerance mm : + 0.05	cm3/1000 strokes : + 3.0 Check tolerance
•	cm3/1000s. : +- 6.0 Spreed
Rated speed rpm : 750 - rack travel mm : 9.70 - Tolerance mm : +- 0.20	Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
•	cm3/1000s. : 12.0
Rated speed rpm : 550 - rack travel mm : 9.40 - Tolerance mm : + 0.20 -	rack travel imm : 9.40
	rack travel mm : 9.40 Tolerance mm : + 0.20
ANEROID/ALTITUDE - COMPENSATOR TEST -	STARTING FUEL DELIVERY
2000	+
SETTING	Rated speed rpm : 100 rack travel mm : 21.00
Rated speed rpm : 1250 - Pressure hPa : 350 -	Tolerance mm : + 0.50 Del. quantity
Rated speed rpm : 1250	cm3/1000 strokes : 176.0 Tolerance
Pressure hPa :	+ cm3/1000 strokes : +- 20.0 + Check tolerance + cm3/1000s. : +- 25.0
MEASUREMENT	T CIB/10003 +- 25.0
•	<del> </del>
Rated speed rpm : 1250 - Pressure hPa : 285 -	LOW IDLE
rack travel mm : 10.00 - Tolerance mm : +- 0.20	Rated speed rpm : 475
Pressure hPa : 200 -	Rack travel in mm : 5.50 Tolerance mm : + 0.10
rack travel mm : 9.40 - Tolerance mm : + 0.20 -	Del. quantity cm3/1000 strokes : 26.5
-	Tolerance cm3/1000 strokes : +- 3.0
Start interlock	Check tolerance cm3/1000s. : +- 5.0
Rated speed rpm : > 100 - Rated speed rpm : < 325 -	Spreed

Tolerance cm3/1000 strokes : 4.0

Check tolerance cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 23.02.98 : ISO 4113

Combination No.

: 0 402 076 803

Injection pump

Pump designation : PES6P100A320LS3317

EP type number

: 0 412 006 706

Governor

Governer design. : RSV400...1200P5A645

Governier no.

: 0 421 833 558

Cust. part No. : 1825466c91

Customer-spec. information : NAVISTAR Customer : DTA-466 Motor Power KW : 156.0

## TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C

: + 2.0 Tolerance °C

: 2 47 413 076 Overflow valve

Inlet press. bar : 3.3 Tolerance bar : **←** 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 : + 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter: 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 3.00 Tolerance mm : + 0.05Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mn: +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

#### BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 13.45 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 149.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance cm3/1000s.

: **←** 3.0

Spreed	+ Tolerance
Tolerance	- cm3/1000 strokes : 8.0
cm3/1000 strokes : 8.0	+ Check tolerance + cm3/1000s. : 12.0
CHO/ 1000 Strokes . 0.0	I (m5/10003 12.0
Check tolerance	1
cm3/1000s. : 12.0	
	+ CONTROL LEVER
	+
m	+ control lever
Rated speed rpm : 400	+ position degree : 103.0
Rack travel in mm: 5.30	tolerance degree : +- 4.0
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	+ rack travel mm : 12.40
cm3/1000 strokes : 23.5	Rated speed rpm : 1245
Tolerance	+ Tolerance 1/min : + 5
cm3/1000 strokes : + 2.0	†
Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 4.00
Spreed 4.3	+ Rated speed rpm : 1305 + Tolerance 1/min : +- 5
Tolerance	Total and I in a
cm3/1000 strokes : 4.0	+ rack travel mm : 0.85
Check tolerance	+ Tolerance mm : + 0.55
cm3/1000s. : 6.5	+ Rated speed rpm : 1400
	†
(B) SETTING OF INJECTION PUMP	+ rack travel mm : 4.00 + Rated speed rpm : 1310
WITH GOVERNOR	Tolerance 1/min : +- 15
	+
	+
CHARLE OF EACH DOCATION	+
GUIDE SLEEVE POSITION	- ION TO E
GUIDE SLEEVE POSITION	LOW IDLE
GUIDE SLEEVE POSITION  control lever	LOW IDLE
control lever position degree : - 3	control lever
control lever	control lever position degree : 73.0
control lever position degree : - 3 Rated speed rpm : 800	control lever
control lever position degree : - 3 Rated speed rpm : 800 Rack travel in mm : 0.50	control lever position degree : 73.0 tolerance degree : + 4.0
control lever position degree : - 3 Rated speed rpm : 800	control lever position degree : 73.0
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 73.0 tolerance degree : + 4.0
control lever position degree : - 3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 100
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring
control lever position degree : - 3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring Rated speed rpm : 100  CRT mm min. : > 19.00
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 100
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring Rated speed rpm : 100  CRT mm min. :> 19.00  Testing: Rated speed rpm : 400
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring Rated speed rpm : 100  CRT mm min. :> 19.00  Testing: Rated speed rpm : 400
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1000	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1000 Del. quantity	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30 Tolerance mm : + 0.10
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1000	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30 Tolerance mm : + 0.10
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 149.5	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30 Tolerance mm : + 0.10  TORQUE CONTROL Rated speed rpm : 1200 rack travel mm : 13.45
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30 Tolerance mm : + 0.10  TORQUE CONTROL Rated speed rpm : 1200
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30 Tolerance mm : + 0.10  TORQUE CONTROL Rated speed rpm : 1200 rack travel mm : 13.45 Tolerance mm : + 0.05
control lever position degree : -3 Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 3.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1200 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 149.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 73.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 100  CRT mm min. :> 19.00  Testing:  Rated speed rpm : 400 rack travel mm : 5.30 Tolerance mm : + 0.10  TORQUE CONTROL Rated speed rpm : 1200 rack travel mm : 13.45

Tolerance mm	: <b>←</b> 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 800 : 1000
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 800 : -
MEASUREMENT	
Rated speed rpm	: 800
Pressure hPa rack travel mm Tolerance mm	: 650 : 13.30 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 315 : 10.70 : ← 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1000 : 800
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: 1000
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1000 : 800
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1000 : 800 : 171.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure hPa	: 1000 : 800 : 171.0 : + 2.0 : + 4.0
Aneroid pressure hPa Rated speed rpm Del. quantity DM3/1000 strokes Tolerance DM3/1000s. Aneroid pressure DPa Rated speed rpm Del. quantity	: 1000 : 800 : 171.0 : + 2.0 : + 4.0
Ameroid pressure Pa Rated speed rpm Del. quantity CM3/1000 strokes Tolerance CM3/1000s.  Ameroid pressure Pa Rated speed rpm Del. quantity CM3/1000 strokes Tolerance CM3/1000 strokes Tolerance	: 1000 : 800 : 171.0 : + 2.0 : + 4.0 : - 4.0 : 800 : 77.0
Aneroid pressure Pa Rated speed rpm Del. quantity CM3/1000 strokes Tolerance CM3/1000s. Aneroid pressure Pa Rated speed rpm Del. quantity CM3/1000 strokes	: 1000 : 800 : 171.0 : ← 2.0 : ← 4.0

Rated speed rpm : 400  Rack travel in mm : 5.30 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000 strokes : 6.5	rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Rack travel in mm: 5.30 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 23.5 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes: 4.0 Check tolerance	LOW IDLE	
Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 23.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance	Rated speed rpm	: 400
	Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	<ul> <li>: ← 0.10</li> <li>: 23.5</li> <li>: ← 2.0</li> <li>: ← 4.5</li> <li>: 4.0</li> </ul>

End of test specification sheet

Rated speed rpm : 100

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.02.98 : ISO 4113

Combination No. : 0 402 744 806

Injection pump

Pump designation : PES4P120A320RS7431

EP type number : 0 412 724 805

Governor

Soverner design. : RQV325...1500PA1333

: -1K

Governer no.

: 0 421 815 555

Cust. part No. : 3393633

Customer-spec. information Customer : CDC : 4BTA-A Motor

Power KW

: 179.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C : **←** 2.0

Overflow valve : 2 417 413 093

40

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter:

3.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : + 1.0

Prestroke mm : 3.90 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50

: +- 1.50 Tolerance mm

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00

Tolerance : +- 0.50

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 15.25

Tolerance mm :  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 206.0	Tolerance mm : + 0.25
Tolerance	Rated speed rpm : 1940 - guide sleeve
cm3/1000 strokes : +- 1.0	+ travel mm : 13.50
	+ Tolerance mm : + 0.50
Check tolerance	
cm3/1000s. : +- 4.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	T TOLE LOAD DELIVERY AT FOLE LOAD STOP
opi eed	Rated speed rpm : 1500
Talanamaa	, , , , , , , , , , , , , , , , , , ,
Tolerance	+ Aneroid pressure
cm3/1000 strokes : 8.0	+ hPa : 1000
	+ Del. quantity
Check talerance	+ cm3/1000 strokes : 206.0
cm3/1000s. : 12.0	+ Tolerance
	+ cm3/1000 strokes : +- 1.0
	+ Check tolerance
	+ cm3/1000s. : +- 4.0
Rated speed rpm : 325	Spreed
	- Tolerance
Rack travel in mm: 7.80	+ cm3/1000 strokes : 8.0
Tolerance ma : + 0.10	+ Check tolerance
Del. quantity	+ cm3/1000s. : 12.0
cm3/1000 strokes : 20.0	
Tolerance	
cm3/1000 strokes : + 3.0	
Check tolerance	CONTROL LEVER
cm3/1000s. : +- 5.0	T CONTINUE SEVER
Spreed	T control lever
Tolerance	position degree : 119.0
cm3/1000 strokes : 4.0	tolerance degree : + 4.0
Check tolerance	T toterance degree 4.0
cm3/1000s. : 8.0	T DATED COLED
CRIS/ (UUUS. : 0.U	+ RATED SPEED
	rack travel mm : 14.25
A TAX ACCORDING A TO THE LEAD THE AND	+ Rated speed rpm : 1565
(B) SETTING OF INJECTION PUMP	Tolerance 1/min: + 5
WITH GOVERNOR	†
	rack travel mm : 5.50
	+ Rated speed rpm : 1720
GUIDE SLEEVE TRAVEL	+ Tolerance 1/min : + 15
	† , , , , ,
Rated speed rpm : 1555	+ rack travel mm : 0.50
guide sleeve	+ Tolerance mm : + 0.50
travel mm : 9.37	+ Rated speed rpm : 1850
Tolerance mm : + 0.15	+
	+
Rated speed rpm : 325	+
guide sleeve	+
travel mm : 1.53	+ LOW IDLE
Tolerance mm : + 0.20	+
	+
Rated speed rpm : 1007	+ control lever
guide sleeve	position degree : 75.0
travel mm : 5.72	tolerance degree : + 4.0
Tolerance am : + 0.25	1
i was an in the second	- Control lever difference
Rated speed rpm : 550	Grad : 44.0
guide sleeve	tolerance degree : + 6.0
travel mm : 3.40	I totaline degree . *** 0.0
11 Q Y C L (RII) . J. 40	T

Setting point w/o	out bumper spring	Aneroid pressure	: 1000
Rated speed rpm	: 275	Rated speed rpm	: 1100
CRT men min.	: > 8.10	Del. quantity cm3/1000 strokes	: 193.5
Testing:		Tolerance cm3/1000 strokes	
Rated speed rpm	: 325	+ Check tolerance cm3/1000s.	
rack travel mm Tolerance mm	: 7.80 : + 0.10	+ Spreed + Tolerance	2.2
Rated speed rpm	: 400	cm3/1000 strokes Check tolerance	
		cm3/1000s.	: 12.0
TORQUE CONTROL	4500		
Rated speed rpm	: 1500	rack travel mm	: 13.75
rack travel mm	: 15.25	† Tolerance mm	: ← 0.20
Tolerance mm	: +- 0.05	Ī	
Rated speed rpm	: 1100	+ Aneroid pressure	
rack travel mm Tolerance mm	: 14.70	+ hPa	: -
Tolerance mm	: <b>←</b> 0.20	+ Rated speed rpm	: 750
Daka dama da umu	700	+ Del. quantity	447.0
Rated speed rpm	: /50	+ cm3/1000 strokes	: 117.U
rack travel mm Tolerance mm	: 13.75 : +- 0.20	+ Tolerance + cm3/1000 strokes	. + 10
IOCET OFFICE INN	. +- 0.20		
	· · · · · · · · · · · · · · · · · · ·	+ Check tolerance + cm3/1000S.	: + 3.0
ANEROID/ALTITUDE COMPENSATOR TEST			
SETTING		STARTING FUEL DE	LIVERY
00.12,10		+ Rated speed rpm	: 100
Rated speed rpm	: 1500	+ rack travel mm	
Pressure hPa	: -	+ Tolerance mm	: ← 0.50
		+ Del. quantity	
Rated speed rpm	: 750	cm3/1000 strokes	: 122.0
Pressure hPa		+ Tolerance	
rack travel mm	: 11.65	+ cm3/1000 strokes	: +- 20.0
Tolerance mm	: + 0.20	+ Check tolerance + cm3/1000s.	: + 25.0
MEASUREMENT		T CIB/ 10005.	: 25.0
Rated speed rpm	: 1500	‡	
Pressure hPa	: 570	+ LOW IDLE	
rack travel mm	: 13.10	+	
Tolerance mm	: +- 0.20	Rated speed rpm	: 325
Pressure hPa	: 500	Rack travel in m	n: 7.80
rack travel mm	: 12.70	+ Tolerance mm	
Tolerance mm		Del. quantity	
·		- cm3/1000 strokes	: 20.0
		+ Tolerance	
			: <del></del> 3.0
FUEL DELIVERY CHA	ARACTERISTICS	† Check tolerance	
		+ cm3/1000s.	: +- 5.0
<del></del>	<del></del>	+ Spreed	

Tolerance : 4.0 Check tolerance cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.02.98 : ISO 4113

Combination No. : 9 400 030 747AB

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...11CDADC863R

Governer no. : 9 420 034 721

Cust. part No. : 3934149

Customer-spec. information

Customer : CDC

Motor

: 4BT3.9

Power KW

: 71.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C

: +-2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

Tolerance bar

: 208.5 : ← 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x length mm :

x inside diameter:

2.0 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 : + 1.50 Tolerance mm

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance  $^{\circ}NW$  : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.75 Tolerance mm

: + 0.05

Del. quantity

cm3/1000 strokes : 100.0

Tolerance + 1.0 +	- Tolerance - cm3/1000 strokes : +- 1.0
	- Check tolerance
Check tolerance cm3/1000s. : ← 3.0	- cm3/1000s. : + 3.0 - Spreed
Spreed	Tolerance : 4.0
Tolerance cm3/1000 strokes : 4.0	- Check tolerance - cm3/1000s. : 6.5 -
Check tolerance cm3/1000s. : 6.5	- CONTROL LEVER
	-
‡	- control lever - position degree : 112.0
Rated speed rpm : 475	tolerance degree : + 4.0
Rack travel in mm: 5.70	- RATED SPEED
Tolerance mm : + 0.10	- rack travel mm : 10.75
Del. quantity +	- Rated speed rpm : 1170
cm3/1000 strokes : 21.5	- Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	- - rack travel mm : 6.00
Check tolerance	- Rated speed rpm : 1240
cm3/1000s. : +- 4.5 Spreed	Tolerance 1/min : +- 5
Tolerance	- rack travel mm : 0.85
cm3/1000 strokes : 6.0	- Tolerance mm : +- 0.55
Check tolerance	- Rated speed rpm : 1375
cm3/1000s. : 8.0 +	•
†	rack travel mm : 6.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- Rated speed rpm : 1240 - Tolerance 1/min : +- 15 - -
GUIDE SLEEVE POSITION	- LOW IDLE
control lever	- - control lever
position degree : -3	- position degree : 87.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance mm : +- 0.20	- Grad : 25.0 - tolerance degree : + 6.0
governor spring	-
pre-tension +	- Setting point w/out bumper spring
click setting $x$ : 3.75	- Datad aread pur . /75
	- Rated speed rpm : 475 - rack travel mm : 5.20
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.20 Tolerance mm : + 0.10
Rated speed rpm : 1100	- Rated speed rpm : 100
Aneroid pressure hPa : 1000	- CRT mm main. :> 19.00
Del. quantity cm3/1000 strokes : 100.0	Testing:

475 Rated speed rpm : rack travel mm 5.70 Tolerance mm : **←** 0.10

TORQUE CONTROL Rated speed rpm 1100 rack travel mm 11.75 : **←** 0.05 Tolerance mm

750 Rated speed rpm rack travel mm 12.75 : **←** 0.10 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

750 Rated speed rpm Pressure hPa 1000

750 Rated speed rpm Pressure hPa 11.00 rack travel mm : **←** 0.10 Tolerance mm

MEASUREMENT

750 Rated speed rpm

Pressure hPa 600 rack travel mm 12.70 : **←** 0.20 Tolerance mm

410 Pressure hPa 11.80 rack travel mm : +- 0.20 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 Rated speed rpm 750 Del. quantity

cm3/1000 strokes : 110.5 Tolerance

cm3/1000 strokes

2.0 Check tolerance 4.0

cm3/1000S. : +-

Aneroid pressure

hPa

Rated speed rpm : 750

Del. quantity cm3/1000 strokes : 86.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 :

: **←** 0.50 Tolerance mm

Del. quantity cm3/1000 strokes : 120.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm: 5.70 : + 0.10 Tolerance mm

Del. quantity

cm3/1000 strokes : 21.5 Tolerance

cm3/1000 strokes : +-

Check tolerance cm3/1000s. 4.5

2.0

Spreed

Tolerance cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 8.0 :

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.02.98 Test oil : ISO 4113

Combination No. : F 002 AUZ 026

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : R\$V475...1250A00904R

Governer no.

: F 002 A20 220

Cust. part No. : 3930148

Customer-spec. information Customer : CDC : 4BT3.9 Motor

Power KW : 63.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temo. °C 40 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45
Tolerance mm : 40.05

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : :- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.35 Tolerance mm :  $\leftarrow$  0.05

Del. quantity	Aneroid pressure
cm3/1000 strokes : 85.0	hPa : - Del. quantity
Tolerance	cm3/1000 strokes : 85.0
cm3/1000 strokes : +- 1.0	Tolerance
Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : +- 3.0	cm3/1000s. : +- 3.0
+	Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance	Check tolerance
cm3/1000 strokes : 3.5	cm3/1000s. : 6.0
Check tolerance	
cm3/1000s. : 6.0	
	CONTROL LEVER
†	control toyon
Rated speed rpm : 475	control lever position degree : 115.0
Hacca speed fair 1 775	tolerance degree : + 4.0
Rack travel in mm : 5.50	
Tolerance mm : + 0.10 +	RATED SPEED
Del. quantity	rack travel mm : 9.30
cm3/1000 strokes : 20.5	Rated speed rpm : 1325 Tolerance 1/min : +- 5
cm3/1000 strokes : +- 2.0	Toterance Thinti . The S
Check tolerance	rack travel mm : 6.30
cm3/1000s. : + 4.5	Rated speed rpm : 1370
Spreed	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance + cm3/1000s. : 5.5 +	Tolerance mm : + 0.55 Rated speed rpm : 1695
T 3.3	nated speed (pill : 10/3
<del>i</del>	rack travel mm : 6.30
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1370
WITH GOVERNOR +	Tolerance 1/min : +- 15
1	
<del></del>	
GUIDE SLEEVE POSITION	101.70.5
†	LOW IDLE
control Lever	
position degree : - 3	control lever
Rated speed rpm : 800	position degree : 88.5
t	tolerance degree : + 4.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	Control lever difference
Tolerance mm : $\leftarrow$ 0.20	Grad : 26.5
governor spring	tolerance degree : + 6.0
pre-tension +	00(0) 4,000 405,000 0
click setting x : 4.50	Setting point w/out bumper spring
	Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 475 rack travel mm : 5.00
TOLE CONFIDENCE AND OTHER	Tolerance mm : +- 0.10
Rated speed rpm : 1250	
i e e e e e e e e e e e e e e e e e e e	5 t 1 co 1 cos

Rated speed rpm : 100

CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mmm	: 475 : 5.50 : ← 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1250 : 10.35 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.00 : ← 0.10

## FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950 rack travel mm : 10.70 Tolerance mm : + 0.10

Aneroid pressure hPa Rated speed rpm Del. quantity	: :	- 750
cm3/1000 strokes	:	88.5
Tolerance cm3/1000 strckes Check tolerance	: +-	2.0
cm3/1000s.	: +-	4.0
rack travel mm	:	10.70
Tolerance mm	• 4	0.10

## STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	:		100 20.50 0.50
Del. quantity cm3/1000 strokes Tolerance	:		121.0
cm3/1000 strokes	:	+-	10.0
Check tolerance cm3/1000s.	:	+	15.0

## LOW IDLE

Rated speed rpm	:		475	
Rack travel in mma Tolerance mma		+-	5.50 0.10	
Del. quantity cm3/1000 strokes Tolerance	:		20.5	
cm3/1000 strokes Check tolerance	:	+-	2.0	
cm3/1000s. Spreed	:	+-	4.5	
Tolerance cm3/1000 strokes	:		3.5	
Check tolerance cm3/1000s.	:		5.5	

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.02.98 Test oil : ISO 4113

Combination No. : F 002 A0Z 026CA

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1250A0c904R

Governer no. : F 002 A20 220

Cust. part No. : 3934148

Customer-spec. information Customer : CDC
Motor : 48T3.9
Power KW : 63.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

J25

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.45 Tolerance mm : +- 0.05

Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : ← 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270 Tolerance : ← 0.50

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.35

Tolerance mm :  $\leftarrow$  0.05

Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 85.0	+ hPa : - Del. quantity
Tolerance cm3/1000 strokes : +- 1.0	cm3/1000 strokes : 85.0 Tolerance
Check tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : + 3.0	+ cm3/1000s. : +- 3.0 + Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	<u> </u>
	+ CONTROL LEVER
Rated speed rpm : 475	control lever position degree : 115.0 tolerance degree : + 4.0
Rack travel in mm : 5.50	+ toterance degree : +- 4.0
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity	rack travel mm : 9.30
cm3/1000 strokes : 20.5 Tolerance	+ Rated speed rpm : 1325 + Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.0	Total and min
Check tolerance	rack travel mm : 6.30
cm3/1000s. : + 4.5	Rated speed rpm : 1370
Spreed Triangue	+ Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : 3.5	+ rack travel mm : 0.85
Check tolerance	Tolerance mm : + 0.55
cm3/1000s. : 5.5	Rated speed rpm : 1695
	+ rack travel mm : 6.30
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1370
WITH GOVERNOR	+ Tolerance 1/min : + 15
	İ
GUIDE SLEEVE POSITION	<u> </u>
GOIDE OCCUPATION	LOW IDLE
control lever	+
position degree : - 3	+ control lever
Rated speed rpm : 800	+ position degree : 88.5 + tolerance degree : + 4.0
Rack travel in mm: 0.50	toterance degree 4.0
Tolerance mm : +- 0.20	Control Lever difference
•	+ Grad : 26.5
governor spring pre-tension	tolerance degree : +- 6.0
click setting x : 4.50	Setting point w/out bumper spring
	+ Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.00
	Tolerance mm : +- 0.10
Rated speed rpm : 1250	Poted around The 100
	+ Rated speed rpm : 100

CRT man min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.50 : + 0.10
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1250 : 10.35 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.00 : ← 0.10

## FUEL DELIVERY CHARACTERISTICS

: 950 : 10.70

: **←** 0.10

Rated speed rpm

rack travel mm

Tolerance mm

<del></del>	
Aneroid pressure	
hPa	: -
Rated speed rpm	: 750
Del. quantity	
cm3/1000 strokes	: 88.5
Tolerance	
cm3/1000 strokes	: <del>←</del> 2.0
Check tolerance	
cm3/1000s.	: <del></del>
rack travel mm	: 10.70
Tolerance mm	: + 0.10

## STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	: : : +-	100 20.50 0.50
Del. quantity cm3/1000 strokes Tolerance	:	121.0
cm3/1000 strokes Check tolerance	: +-	10.0
cm3/1000s.	: +-	15.0

## LOW IDLE

Rated speed rpm	:		475
Rack travel in mm Tolerance mm	•	+	5.50 0.10
Del. quantity	•	•	0.10
cm3/1000 strokes Tolerance	:		20.5
cm3/1000 strokes	:	+-	2.0
Check tolerance	•	+-	4.5
Spreed	•		1.5
Tolerance cm3/1000 strokes	:		3.5
Check tolerance			<b>.</b> .
CM3/(UUUS.	:		5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23,02,98 Test oil : ISO 4113

Combination No. : F 002 A0Z 041AA

Injection pump

Pump designation : PES6A950320/3RS2881.

EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A0C923R

: F 002 A20 231 Governer no.

: 3934150 Cust. part No.

Customer-spec. information Customer : CDC Motor : 6BT

: 75.0 Power KW

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : **←** 2.0

: 2 417 413 093 Overflow valve

Inlet press. bar : 2.0 : **←** 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

600 x length mm :

2.0

x inside diameter :

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

17.0 Test pressure bar : : +- 1.0 Tolerance bar

Prestroke mm 2.85 : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance  $m_m$ :  $\leftarrow$  1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00 Tolerance

: +- 0.50

Check

tolerance *NW : **←** 0.75

Barrel no.

1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 9.00 Tolerance mm :  $\leftarrow$  0.05

	+ Aneroid
Del. quantity cm3/1000 strokes : 70.5	+ hPa + Del. qu + cm3/100
Tolerance cm3/1000 strokes : + 1.0	+ Tolerar + cm3/100 + Check t
Check tolerance cm3/1000s. : + 3.0	- cm3/100 - Spreed - Toleran
Spreed	- cm3/100
Tolerance cm3/1000 strokes : 3.5	- cm3/100
Check tolerance : 6.0	CONTROL
Rated speed rpm : 500	control position tolerar
Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity	RATED S rack tr
cm3/1000 strokes : 18.5 Tolerance	Tolerar
cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	rack tr Rated s Tolerar
Spreed Tolerance cm3/1000 strokes : 3.5	rack tr
Check tolerance cm3/1000s. : 5.5	Rated s
(B) SETTING OF INJECTION PUMP	- rack tr - Rated s - Toleran
WITH GOVERNOR	+
GUIDE SLEEVE POSITION	LOW IDL
control lever position degree : - 3 Rated speed rpm : 800	control position toleran
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Control Grad toleran
governor spring pre-tension click setting x : 2.75	Setting
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated s + rack tr + Toleran

Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Check tolerance cm3/1000s.	: - : 70.5 : + 1.0 : + 3.0 : 3.5 : 6.0
control lever position degree tolerance degree	
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 8.00 : 1165 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1260 : + 5
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : ← 0.55 : 1400
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1270 : +- 15
LOW TO E	

## LE

llever ion degree : 84.0 ance degree : + 4.0

l lever difference : 16.0 ince degree : ← 6.0

g point w/out bumper spring

speed rpm : 500 cravel mm : 4.50 ence mm : + 0.10

Rated speed rpm : 100

K01

Rated speed rpm : 1100

CRT mm min. : > 19.00 Testing: 500 Rated speed rom : rack travel mm : 5.00 Tolerance mm : + 0.10TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 9.00 Tolerance nm : +- 0.05 Rated speed rpm 750 rack travel mm 9.60 Tolerance mm : + 0.10FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 76.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.0 STARTING FUEL DELIVERY Rated speed rpm 100 20.50 rack travel mm : Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : **←** 15.0 LOW IDLE Rated speed rpm : 500 Rack travel in mm: 5.00

: +- 0.10

18.5

Tolerance mm

cm3/1000 strokes :

Del. quantity

K02

Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 5.5

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.02.98 Edition Test oil : ISO 4113

Combination No. : F 002 AUZ 057CA

Injection pump

Pump designation : PES4A95D320/3RS2927 EP type number : F 002 A10 017

Governor

6overner design. : RSV475...1250A0C936R

Governer no. : F 002 A20 241

Cust. part No. : 3934147

Customer-spec. information Customer Motor : 4BNA3.9 Power KW 59.7

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 2.0 Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 2.85 : + 0.05Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

: 1-3-4-2 Firing order

: 0-90-180-270 Phasing

Tolerance : +- 0.50 Check

tolerance 'NW : + - 0.75

Start of delivery blocking

*NW after s.o.d. : 8.50 Tolerance : + 0.50

Check

tolerance 'NW : + 0.75

1 Barrel no.

BASIC SETTING

1250 Rated speed rpm :

10.20 Rack travel in mm : : **←** 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 92.0	Aneroid pressure hPa : -
Tolerance	Del. quantity cm3/1000 strokes : 92.0 Tolerance
Check tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : + 3.0	cm3/1000s. : + 3.0 Spreed
Spreed	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5	Check tolerance cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	
	CONTROL LEVER
Octual area of 175	control lever
Rated speed rpm : 475	position degree : 93.0 tolerance degree : + 4.0
Rack travel in mm: 5.00	toterance degree : +- 4.0
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	rack travel mm : 9.20
cm3/1900 strokes : 13.5	Rated speed rpm : 1340
Tolerance	Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	7.00
Check tolerance + 4.5 + 4.5	rack travel mm : 4.00
Spreed +-	Rated speed rpm : 1400
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 3.5	Tolerance mm : +- 0.55
Check tolerance +	Rated speed rpm : 1475
cm3/1000s. : 5.5	
<b>†</b>	rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1400 Tolerance 1/min : +- 15
WITH GOVERNOR	Total diffe (7) in 11
CIANE CLEDIE DOSVICION	LOUTING
GUIDE SLEEVE POSITION	LOW IDLE
control lever	control lever
position degree : -3	position degree : 70.0
Rated speed rpm : 800	tolerance degree : + 4.0
Rack travel in mm: 0.50	Control lever difference
Tolerance and : + 0.20	Grad : 23.0
1000 0000	tolerance degree : + 6.0
governor spring	
pre-tension +	Setting point w/out bumper spring
click setting x : 3.50	
+	Rated speed rpm : 475
FILL LOAD DELTUENY AT FILL LOAD OTCO	rack travel mm : 4.50
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 1250	Rated speed rpm : 100
1	

CRT men main. : > 19.00

Testing:

475 Rated speed rpm rack travel mm 5.00 Tolerance mm - 0.10

TORQUE CONTROL

1250 Rated speed rpm rack travel mm 10.20 Tolerance mm - 0.05

Rated speed rpm 600

## STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm Tolerance mm : **←** 0.50 Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  10.0

Check tolerance

cm3/1000s.: + 15.0

## LOW IDLE

Rated speed rpm : 475

5.00 Rack travel in mm : Tolerance mm : **+** 0.10

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s. 4.5

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 5.5

End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.02.98 : ISO 4113

Combination No. : F 002 A0Z 061

Injection pump

Pump designation : PES4A95D320/3RS2927

EP type number : F 002 A10 017

Governor

Governer design. : R\$V475...1100A2C941R

Governer no.

: F 002 A20 242

Cust. part No. : 3930143

Customer-spec. information : CDC Customer

: 4BNA3.9 Motor

Power KW

: 54.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: 2 417 413 093 Overflow valve

Inlet press. bar : 2.0

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar

: + 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85

: +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : <del>+-</del> 0.50

Check

tolerance  $^{\circ}NW$  : + 0.75

Start of delivery blocking

*NW after s.o.d. : 9.50

: +- 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 10.55

Tolerance mm :  $\leftarrow$  0.05

		+
Rated speed rpm	: 515	İ
Rack travel in mm Tolerance mm	: 5.40 : ← 0.20	+
Del. quantity cm3/1000 strokes	: 13.5	‡
Tolerance cm3/1000 strokes Check tolerance	: <b>←</b> 2.0	Ī
cm3/1000s. Spreed	: ← 4.5	+
Tolerance cm3/1000 strokes Check tolerance	: 3.5	‡
cm3/1000s.	: 5.5	Ī
(B) SETTING OF INWITH GOVERNOR	JECTION PUMP	+ + + + +
GUIDE SLEEVE POSI	TION	† † †
control lever position degree Rated speed rpm	: - 3 : 800	† † † †
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	<u> </u>
governor spring pre-tension click setting x	: 3.00	+++++++++++++++++++++++++++++++++++++++
CONTROL LEVER		Ī
control lever position degree tolerance degree	: 100.0 : + 4.0	+ + + +
RATED SPEED rack travel mm Rated speed rpm Tolerance 1/min	: 9.50 : 1155 : + 5	+ + + + + + + + + + + + + + + + + + + +
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1220 : ← 5	<u> </u>
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1325	+

rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1230 : +- 15
LOW IDLE	
control lever position degree tolerance degree	: 81.0 : ← 4.0
Control lever dif Grad tolerance degree	: 19.0
Setting point w/o	uit bumper spring
Rated speed rpm rack travel mm Tolerance mm	: 515 : 4.90 : + 0.20
Rated speed rpm	: 100
CRT mm min.	: > 19.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 515 : 5.40 : + 0.20
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 10.55 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 10.55 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity cm3/1000 strokes	: 600 : 82.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s. Spreed	: +- 3.0

Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 6.0 STARTING FUEL DELIVERY 100 Rated speed rpm : rack travel mm : 20.50
Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes :  $\leftarrow$  10.0 Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Rated speed rpm : 515 Rack travel in mm: 5.40 Tolerance m :  $\leftarrow$  0.20 Del. quantity cm3/1000 strokes : 13.5 Tolerance cm3/1000 strokes :  $\leftarrow$  2.0 Check tolerance : +- 4.5 cm3/1000s.Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance 5.5 cm3/1000s.End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 16.06.93 : ISO 4113

Combination No. : 0 401 816 714

Injection pump

Pump designation: PE6P12OA70ORS3192-1

EP type number : 0 411 826 803

Governor

6overner design. :

Governer no.

Cust. part No. :

Customer-spec. information

Customer : IVECO-AIFO

Motor : 8210SRI

## TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C 40

Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 3.45

: +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + -0.50

Check

tolerance *NW : **←** 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 13.05

Tolerance mm :  $\leftarrow$  0.05

Rated speed rpm : 300

Del. quantity

cm3/1000 strokes : 21.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  3.0

Check tolerance

cm3/1000s.: +-6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s.

: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

TORQUE CONTROL

Rated speed rpm : 900 rack travel mm : 13.05 Tolerance mm : ← 0.05

## LOW IDLE

Rated speed rpm : 300

Del. quantity cm3/1000 strokes : 21.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

8.0 cm3/1000 strokes :

Check tolerance cm3/1000s. 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.02.98 Test oil : ISO 4113

Combination No. : 0 401 876 815

Injection pump

Pump designation : PE6P110A320RS3374 EP type number : 0 411 816 800

Governor

Governor design. : RSV300...900P1A625

Governer no. : 0 421 833 554

Oust. part No. : 11032713

: -P01 v.08/96

Customer-spec. information

Customer : VCE

Motor : TD 63 KFE Power KW : 122.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm): 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

BASIC SETTING	
Rated speed rpm	: 900
Rack travel in mana Tolerance mana	: 14.30 : + 0.05
Del. quantity cm3/1000 strokes	: 151.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000%.	: + 3.C
Spreed	<del></del>
Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 7.5
Rated speed rpm	
Rack travel in mm Tolerance mm Del. quantity	: 5.60 : ← 0.10
cm3/1000 strokes Tolerance	: 26.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: +- 4.5
Tolerance cm3/1000 strokes	: 3.0
Check tolerance cm3/1000s.	: 6.0
(B) SETTING OF INWITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POST	TION
control lever position degree	: - 3

governor spring pre-tension 4.00 click setting x : FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm 900 Aneroid pressure hPa 1500 Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +-3.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 7.5 cm3/1000S. CONTROL LEVER control lever position degree : 47.0 tolerance degree : + 4.0 control lever position degree : 97.0 tolerance degree : +- 4.0 RATED SPEED 13.30 rack travel mm Rated speed rpm 930 Tolerance 1/min : +-4.00 rack travel mm 990 Rated speed rpm : Tolerance 1/min : +- 15 rack travel mm 0.85 : +- 0.55 Tolerance mm Rated speed rpm : 1150 rack travel mm 4,00 : Rated speed rpm : 1010 Tolerance 1/min : + 15

: +- 0.20

Tolerance mm

LOW IDLE

Rated speed rpm : 800

0.50

Rack travel in mm:

control Lever position degree : 69.0 tolerance degree : + 4.0 control lever position degree 19.0 tolerance degree : + 4.0

Setting point w/out bumper spring

300 Rated speed rpm 5.10 rack travel mm Tolerance mm : + 0.10

Testing:

Rated speed rpm 300 rack travel mm 5.60 Tolerance mm : + 0.10

2.00 rack travel mm : Rated speed rpm 460 Tolerance 1/min

TORQUE CONTROL 900 Rated speed rom 14.30 rack travel ma : ← 0.05 Tolerance mm

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

550 Rated speed rpm Fressure hPa 1500 rack travel mm 14.30 : + 0.05Tolerance mm

Rated speed rpm 550 Pressure hPa rack travel mm 11.00 Tolerance mm : ← 0.20

**MEASUREMENT** 

550 Rated speed rpm

580 Pressure hPa 2.70 rack travel mm : +- 0.20 Tolerance mm

90 Pressure hPa 0.25 rack travel mm : + 0.05Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

550 Rated speed rpm

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s.

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 11.00 : + 0.30Tolerance mm

Del. quantity

cm3/1000 strokes : 103.0

Tolerance cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s.: + 14.0

LOW IDLE

Rated speed rpm : 300

Rack travel in mm: 5.60 Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 26.0

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +-

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s.6.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.98 Test oil : ISO 4113

Combination No. : 0 402 646 680

Injection pump

Pump designation : PE6P120A320RS7447 EP type number : 0 412 626 970

**Governor** 

Governer design. : RQ275/1150PA1361 Governer no. : 0 421 801 825

Cust. part No. : 1329586

Customer-spec. information

Customer : DAF
Motor : GS 200-RQ
Power KW : 200.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 150 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 11.70 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.70

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.70 Tolerance mm : + 0.05

	+ guide sleeve
Del. quantity	travel mm : 4.47
cm3/1000 strokes : 178.0	Tolerance mm : + 0.10
Washington and the second and the se	+
Tolerance cm3/1000 strokes : +- 1.0	+ Rated speed rpm : 440
Cals/ 1000 Strokes : 1.0	+ guide sleeve + travel mm : 6.00
Check tolerance	+ Tolerance mm : + 0.10
cm3/1000s. : + 4.0	+
	+ Rated speed rpm : 1360
Spreed	† guide sleeve
_ ,	+ travel mm : 11.50
Tolerance	† Tolerance mm : + 0.50
cm3/1000 strokes : 5.0	†
Check tolerance	GUIDE SLEEVE POSITION
cm3/1000s. : 9.0	TOTAL DEELVE 100111014
	+ Rated speed rpm : 500
**************************************	
	+ Rack travel in mm : 16.00
Rated speed rpm : 275	+ Tolerance mm : + 0.40
Book turned in the E OF	†
Rack travel in mm : 5.05 Tolerance mm : + 0.10	FIRE LOAD OF THEORY AT FURE LOAD COOR
Tolerance mm : +- U.10  Del. quantity	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 24.0	Rated speed rpm : 1000
Tolerance	+ Aneroid pressure
cm3/1000 strokes : + 3.0	+ hPa : 1000
Check tolerance	- Del. quantity
$cm3/1000s.$ : $\leftarrow$ 6.0	+ cm3/1000 strokes : 178.0
Spreed	+ Tolerance
Tolerance	+ cm3/1000 strokes : + 1.0
cm3/1000 strokes : 8.0	+ Check tolerance
Check tolerance : 12.0	+. cm3/1000s. : +- 4.0 + Spreed
CIID/ 10003 12.0	+ Tolerance
	+ cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance
WITH GOVERNOR	+ cm3/1000s. : 9.0
	+
CHITAE OF ESTATE	†
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 1205	+ GOMINOL CLUEN
guide sleeve	- control lever
travel mm : 6.49	+ position degree : 99.0
Tolerance mm : +- 0.15	+ tolerance degree : + 4.0
	+
Rated speed rpm : 275	+ RATED SPEED
guide sleeve travel mm : 1.97	+ rack travel mm : 10.70
travel mm : 1.97 Tolerance mm : + 0.20	+ Rated speed rpm : 1202 + Tolerance 1/min : +- 8
10.CU	T TOLET ATTLE TATION
Rated speed rpm : 1150	rack travel mm : 4.00
guide sleeve	+ Rated speed rpm : 1280
travel mm : 6.00	+ Tolerance 1/min : +- 15
Tolerance mm : + 0.10	<b>†</b>
	+ rack travel mm : 0.70
Rated speed rpm : 356	+ Tolerance mm : + 0.70
	+ Rated speed rpm : 1450

#### LOW IDLE

control lever

position degree : 73.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. :> 6.40

Testing:

Rated speed rpm : 275
rack travel mm : 5.05
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 355
Tolerance 1/min : + 20

TORQUE CONTROL

Rated speed rpm : 1000 rack travel mm : 11.70 Tolerance mm : + 0.05

Rated speed rpm : 1150 rack travel mm : 11.70 Tolerance mm : + 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.70
Tolerance mm : + 0.05

Rated speed rpm : 600
Pressure hPa : rack travel mm : 6.70
Tolerance mm : +- 0.10

### **MEASUREMENT**

Rated speed rpm : 600

Pressure hPa : 220 rack travel mm : 10.50

Tolerance mm : +- 0.05

Pressure hPa : 100 rack travel mm : 8.10 Tolerance mm : + 0.15

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure Rated speed rpm 600 Del. quantity cm3/1000 strokes : 101.0 Tolerance cm3/1000 strckes : +-Check tolerance cm3/1000s. : +-4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000s. :

#### LOW IDLE

Rated speed rpm : 275 5.05 Rack travel in mm: : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0 :

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQ303/1050PA999-7

Governer no. : 0 421 801 799

Cust. part No. : CCEP 5153 66-224

Customer-spec. information

Sustomer : RENAULT V.I.

Motor : MIHR062045 A47

Power KW : 188.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70 Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery mark

*NW after s.o.d. : -0.50 Tolerance : +- 0.50

Check

tolerance  $^{\circ}NW$  : +- 0.75

Barrel no. : 1

#### CRT ZERO POSITION

Rack travel in mm : 12.40 Tolerance mm : + 0.05

BASIC SETTING

Rated speed rpm	: 600	+	
, ,		+ Rated speed rpm	: 594
Tolerance mm	: +- 0.05	+ guide sleeve	
		+ travel mm	: 5.11
Del. quantity		† Tolerance mm	: +- 0.10
cm3/1000 strokes	: 195.0	+	
_		+ Rated speed rpm	: 720
Tolerance		+ guide sleeve	
cm3/1000 strokes	: <b>←</b> 1.0	+ travel mm	: 6.00
		† Tolerance mm	: <b>←</b> 0.10
Check tolerance	: +- 4.0	T Dated aread are	. 4700
cm3/1000s.	: +- 4.0	+ Rated speed rpm	: 1380
Spreed		† guide steeve + travel mm	: 11.50
Spr eeu		Tolerance mm	: ← 0.50
Tolerance		T local direction	0.50
cm3/1000 strokes	: 5.0	1	
		+ GUIDE SLEEVE POS	ITION
Check tolerance		+	
cm3/1000s.	: 9.0	+	
		+ control lever	
	<del></del>	+ position degree	
		+ Rated speed rom	: 800
Rated speed rpm	: 275	+	
		+ Rack travel in m	
Rack travel in mm		† Tolerance mm	: <del>+</del> 0.80
Tolerance mm	: +- 0.10	Ť	
Del. quantity cm3/1000 strokes	: 38.0	FULL LOAD DELTAGE	RY AT FULL LOAD STOP
Tolerance	. 30.0	T FOLL COMP DELIVE	RE AT FOLL LOND STOP
cm3/1000 strokes	: ← 2.0	Rated speed rpm	: 600
Check tolerance		+ Aneroid pressure	. 000
cm3/1000s.	: +- 5.0	+ hPa	: 1000
Spreed		- Del. quantity	, , , , , , , , , , , , , , , , , , , ,
Tolerance		+ cm3/1000 strokes	: 195.0
cm3/1000 strokes	: 8.0	+ Tolerance	
Check tolerance		+ cm3/1000 strokes	: + 1.0
cm3/1000s.	: 12.0	† Check tolerance	
		+ cm3/1000s.	: <del>+-</del> 4.0
<u></u>		Spreed	
(B) SETTING OF INJ	JECTION PUMP	+ Tolerance	5.0
WITH GOVERNOR		+ cm3/1000 strokes	: 5.0
		+ Check tolerance + cm3/1000s.	: 9.0
GUIDE SLEEVE TRAVE	:	I (1115) 10005.	: 9.0
OUTHE SELENE LUMAE		<del> </del>	
Rated speed rpm	: 1145	ļ	
guide sleeve		+ CONTROL LEVER	
travel mm	: 6.55	+	
Tolerance mm	: <b></b> 0.15	+ control lever	
		<pre>+ position degree</pre>	
Rated speed rpm	: 275	+ tolerance degree	: +- 4.0
guide sleeve	4 75	†	
travel mm	: 1.75	+ RATED SPEED	. 1.00
Tolerance mm	: +- 0.20	+ rack travel mm	
Dated aread are	: 1050	+ Rated speed rpm + Tolerance 1/min	
Rated speed rpm guide sleeve	: 1050	T roterance round	, <del>-</del> - 13
travel mm	: 6.00	T rack travel mm	: -8.40
Tolerance mm	: + 0.10	Rated speed rpm	
TO COT GO TOC TOTAL		, speca i piii	

Tolerance 1/min **:** ← 5 rack travel mm : -11.90 : **←** 0.50 Tolerance mm Rated speed rpm : 1375 LOW IDLE control lever position degree : 254.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm 175 CRT man min. : < -4.70 Testing: Rated speed rpm 275 rack travel mm -6.60: Tolerance mm : + 0.10-10.40rack travel mm 475 Rated speed rpm : +- 50 Tolerance 1/min TORQUE CONTROL Rated speed rpm 600 Tolerance mm : + 0.05 Rated speed rpm : 1050 Tolerance mm : + 0.10ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rom 500 1000 Pressure hPa 500 Rated speed rpm Pressure hPa : -1.75rack travel mm : +- 0.20 Tolerance mm **MEASUREMENT** Rated speed rpm 500

220

:

rack travel mm : -0.85 : + - 0.15Tolerance nm Pressure hPa 160 -1.25rack travel mm Toterance mm : +- 0.05 Start interlock : > Rated speed rpm 100 : < Rated speed rpm 195 Check speed 1/min : > 80 Check speed 1/min : < 215 FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1000 nPa Rated speed rpm 1050 Del. quantity cm3/1000 strokes : 196.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure Rated speed rpm 500 Del. quantity cm3/1000 strokes : 153.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 STARTING FUEL DELIVERY Rated speed rpm 100 Del. quantity cm3/100G strokes : 150.0 Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s.: +- 19.0 LOW IDLE

Pressure hPa

Rated speed rpm	;		275
Rack travel in mm Tolerance mm	:	+-	-6.60 0.10
Del. quantity cm3/1000 strokes Tolerance	:		38.0
cm3/1000 strokes	:	<del></del>	2.0
Check tolerance cm3/1000s. Spreed	:	+	5.0
Tolerance cm3/1000 strokes Check tolerance	:		3.0
cm3/1000s.	:		12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.02.98 Test oil : ISO 4113

Combination No. : 0 402 746 649

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA1217

Governer no. : 0 421 801 782

Cust. part No. : CCEP51508 66

: -225/228

Customer-spec. information

Customer : RENAULT V.I.

Motor : MIDR062045 I-B41

Power KW : 185.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 320 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

٠ 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

*NW after s.o.d. : -1.20 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

## CRT ZERO POSITION

Rack travel in mm: 12.50

Tolerance mm : +- 0.05	guide sleeve travel mm : 6.00
BASIC SETTING	Tolerance mm : + 0.10
Rated speed rpm : 600	Rated speed rpm : 391 guide sleeve
Del. quantity cm3/1000 strokes : 192.0	travel mm : 4.37 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 490 guide sleeve travel mm : 6.00
Check tolerance cm3/1000s. : + 4.0	Tolerance mm : + 0.10  Rated speed rpm : 1340
Spreed	guide sleeve travel mm : 11.50
Tolerance + 5.0 + 5.0	Tolerance mm : +- 0.50
Check tolerance	GUIDE SLEEVE POSITION
cm3/1000s. : 9.0	control lever position degree : 109
Rated speed rpm : 275	Rated speed rpm : 600
Rack travel in mm : -6.80 + Tolerance mm : + 0.10 + Del. quantity	Rack travel in mm : 20.00 Tolerance mm : + 0.80
cm3/1000 strokes : 31.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm : 600 Aneroid pressure
cm3/1000s. : + 5.0 + 5.0	hPa : 1000 Del. quantity
Tolerance + cm3/1000 strokes : 8.0 + Check tolerance +	cm3/1000 strokes : 192.0 Tolerance cm3/1000 strokes : +- 1.0
cm3/1000s. : 12.0	Check tolerance cm3/1000s. : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAVEL	cm3/1000s. : 9.0
Rated speed rpm : 1137 guide sleeve	CONTROL LEVER
travel mm : 6.37 + Tolerance mm : + 0.10 +	control lever position degree : 275.0
Rated speed rpm : 275 guide sleeve	tolerance degree : + 4.0
travel mm : 1.37 Tolerance mm : + 0.10	RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1120
Rated speed rpm : 1050	Tolerance 1/min : +- 5

rack travel mm Rated speed rpm Tolerance 1/min	: 1235
rack travel mm Tolerance mm Rated speed rpm	: -12.00 : ← 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	: 252.0 :
Setting point w/o	ut bumper spring
Rated speed rpm	: 200
CRT mm min.	: < -5.70
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : -6.30 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: −10.40 : 375 : ← 20
TORQUE CONTROL Rated speed rpm	: 600
Rated speed rpm Tolerance mm	: 1050 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : -1.90 : +- 0.20
200 2 41 12 42 44	

Pressure hPa : 320 rack travel mm : -0.70 Tolerance mm : + 0.19	
Pressure hPa : 160 rack travel mm : -1.55 Tolerance mm : + 0.05	
Start interlock	
Rated speed rpm : > 100 Rated speed rpm : < 195	
Check speed 1/min : > 80	0
speed 1/min : < 21	5
FUEL DELIVERY CHARACTERISTIC	cs
Aneroid pressure	
hPa : 1000 Rated speed rpm : 1050	
Del. quantity	
cm3/1000 strokes : 197.0	0
Tolerance cm3/1000 strokes : + 3.0	
Tolerance	0

Aneroid pressure			
hPa	:		_
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		148.0
Tolerance			
cm3/1000 strokes	:	+-	1.0
Check tolerance			
cm3/1000s.	:	+-	4.0

## STARTING FUEL DELIVERY

Rated speed rpm Del. quantity	:	100
cm3/1000 strokes	:	150.0
Tolerance cm3/1000 strokes	: +-	15.0
Check tolerance cm3/1000s.	: +-	19.0

MEASUREMENT

Rated speed rpm : 500

## LOW IDLE

Rated speed rpm	:	275	
Rack travel in man	:	-6.80	
Tolerance mm	: +-	0.10	
Del. quantity			
cm3/1000 strokes	:	31.0	
Tolerance		2.0	
MALIN 1000 OCTORED	; +-	2.0	
Check tolerance cm3/1000s.	: +-	5.0	
Spreed	• '	٠.٠	
Tolerance			
7/4000	:	8.0	
Check tolerance	-		
cm3/1000s.	:	12.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.02.98 : ISO 4113

Combination No. : 0 402 846 077

Injection pump

Pump designation : PE6P120A320RS8043 EP type number : 0 412 826 035

Governor

Governer design. : RQV300...1050PA1247

Governer no.

: 0 421 814 163

Cust. part No. : 11031331-P02v.11.96

Customer-spec. information

Customer : VCE

: TD 103 KCE Motor Power KW : 189.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +-Tolerance °C 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar  $: \leftarrow 0.1$ 

Overflow quantity

min. L/h 205 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 4.25 : + 0.05Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 9.50 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + - 0.75

Start of delivery mark

Tolerance : + 0.50

Check

: + - 0.75tolerance *NW

: 1 Barrel no.

BASIC SETTING

Ratted speed rpm : 500	† guide sleeve † travel mm : 5.18
Rack travel in mm : 12.90 Tolerance mm : +- 0.05	Tolerance mm : + 0.25  Rated speed rpm : 530  guide sleeve
Del. quantity cm3/1000 strokes : 322.0	travel mm : 3.11 Tolerance mm : + 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1400 guide sleeve travel mm : 11.50
Check tolerance cm3/1000S. : + 4.0	Tolerance mm : + 0.50
Spreed	GUIDE SLEEVE POSITION
Tolerance cm3/1000 strokes : 8.0	control lever position degree : - 1
Check tolerance cm3/1000s. : 11.0	Rated speed rpm : 1250  Rack travel in mm : 10.50
Date of annual mass at 200	+ Tolerance mm : +- 2.00
Rated speed rpm : 320	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mma: 4.60 Tolerance mma: + 0.10 Del. quantity	+ Rated speed rpm : 500 + Aneroid pressure
cm3/1000 strokes : 50.0 Tolerance	hPa : 1500 Del. quantity
cm3/1000 strokes : + 2.0 Check tolerance	+ cm3/1000 strokes : 322.0 + Tolerance
cm3/1000s. : +- 4.5 Spreed Tolerance	+ cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000s. : +- 4.0
cm3/1000 strokes : 5.0 Check tolerance	Spreed Tolerance
cm3/1000s. : 8.0	cm3/1000 strokes : 8.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : 11.0
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 1102 guide sleeve	control lever position degree : 45.0 tolerance degree : + 4.0
travel mm : 7.80 Tolerance mm : + 0.15	control lever position degree : 110.0
Rated speed rpm : 320 guide sleeve travel mm : 1.34	tolerance degree : +- 4.0  RATED SPEED
Tolerance mm : + 0.20	rack travel mm : 10.80 Rated speed rpm : 1090
Rated speed rpm : 802	Tolerance 1/min : + 5

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: 1190 : +- 15 : 0.50 : +- 0.50
LOW IDLE	
control lever position degree tolerance degree	: 82.0 : + 4.0
control lever position degree tolerance degree	: 18.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm	: 220
CRT mm min.	: > 7.40
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 320 : 4.60 : + 0.10
Rated speed rpm	: 380
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.90 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.80 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 720 : 12.10 : + 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 500 : 1500 : 12.90

Tolerance mm	: +- 0.05
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 9.50 : + 0.20
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 970 : 2.90 : ← 0.20
Pressure hPa rack travel mm Tolerance mm	: 230 : 0.25 : + 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity c::3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 224.0 : + 1.0 : + 4.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 212.0 : + 1.0

LOW IDLE

Rated speed rpm	:		320
Rack travel in mm Tolerance mm Del. quantity	: :	+-	4.60 0.10
cm3/1000 strokes Tolerance	:		50.0
cm3/1000 strokes Check tolerance	:	+-	2.0
cm3/1000s. Spreed	:	+-	4.5
Tolerance cm3/1000 strokes Check tolerance	:		5.0
cm3/1000s.	:		8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.02.98 Test oil : ISO 4113

Combination No. : 0 402 846 079

Injection pump

Pump designation : PE6P120A32GRS8051 EP type number : 0 412 826 037

6overnor

Governer design. : RQV300...1050PA1141

Governer no. : 0 421 814 091

Cust. part No. : 11031994 P03 v.02.98

Customer—spec. information Customer : VCE Motor : TD122KFE Power KW : 297.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 145 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

ber : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 9.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance *NW :  $\leftarrow$  0.75

Start of delivery mark

Tolerance :  $\leftarrow$  0.50

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Barrel no.	: 1	+ guide sleeve
	•	travel nm : 2.04
		+ Tolerance ram : + 0.20
		-
BASIC SETTING		Rated speed rpm : 1038
		+ guide sleeve
Rated speed rpm	: 700	travel mm : 7.03
•		+ Tolerance mm : + 0.25
		+
Rack travel in mm	: 13.10	+ Rated speed rpm : 490
Tolerance mm	: <b>←</b> 0.05	+ guide sleeve
		† travel mm : 4.65
Del. quantity		+ Tolerance mm : + 0.25
cm3/1000 strokes	: 298.0	+
		+ Rated speed rpm : 1300
Tolerance	•	+ guide sleeve
cm3/1000 strokes	: <del></del> 1.0	+ travel mm : 11.50
		+ Tolerance mm : +- 0.50
Check tolerance		+
cm3/1000s.	: <del></del> 4.0	
		→ GUIDE SLEEVE POSITION
Spreed		+
		†
Tolerance		+ control lever
cm3/1000 strokes	: 8.0	+ position degree : - 1
		+ Rated speed rpm : 1170
Check tolerance		+
cm3/1000s.	: 11.0	+ Rack travel in mm : 12.20
		+ Tolerance mm : + 1.30
		+
0-4-4	. 725	FILL LOAD OF THE PARTY AT THE LOAD OFF
Rated speed rpm	; 343	+ FULL LOAD DELIVERY AT FULL LOAD STOP
		)
Dook Americal day and		t Dated around non-
Rack travel in mo	4.00	+ Rated speed rpm : 700
Tolerance mm		+ Aneroid pressure
Tolerance mm Del. quantity	: 4.00 : ← 0.10	+ Aneroid pressure + hPa : 1500
Tolerance mm Del. quantity cm3/1000 strokes	: 4.00 : ← 0.10	+ Aneroid pressure + hPa : 1500 + Del. quantity
Tolerance mm Del. quantity cm3/1000 strokes Tolerance	4.00 : +- 0.10 : 23.0	+ Aneroid pressure + hPa : 1500 + Del. quantity + cm3/1000 strokes : 298.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	4.00 : +- 0.10 : 23.0	Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 298.0 Tolerance
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	:	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	4.00 : +- 0.10 : 23.0	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	:	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	:	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	23.0 : ← 3.0 : ← 6.0	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed  Tolerance
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	1 : 4.00 : ← 0.10 : 23.0 : ← 3.0 : ← 6.0 : 5.0	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 8.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	:	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 8.0  Check tolerance
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	1 : 4.00 : ← 0.10 : 23.0 : ← 3.0 : ← 6.0 : 5.0	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 8.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	<ul> <li>4.00</li> <li>÷ 0.10</li> <li>23.0</li> <li>÷ 3.0</li> <li>÷ 6.0</li> <li>∴ 5.0</li> <li>∴ 8.0</li> </ul>	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 8.0  Check tolerance
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000S.	<ul> <li>4.00</li> <li>÷ 0.10</li> <li>23.0</li> <li>÷ 3.0</li> <li>÷ 6.0</li> <li>∴ 5.0</li> <li>∴ 8.0</li> </ul>	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 8.0  Check tolerance
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	<ul> <li>4.00</li> <li>÷ 0.10</li> <li>23.0</li> <li>÷ 3.0</li> <li>÷ 6.0</li> <li>∴ 5.0</li> <li>∴ 8.0</li> </ul>	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 8.0  Check tolerance cm3/1000s. : 11.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000S.	<ul> <li>4.00</li> <li>÷ 0.10</li> <li>23.0</li> <li>÷ 3.0</li> <li>÷ 6.0</li> <li>∴ 5.0</li> <li>∴ 8.0</li> </ul>	Aneroid pressure  hPa : 1500  Del. quantity  cm3/1000 strokes : 298.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 8.0  Check tolerance
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000S.	## 4.00 ## 23.0 ## 3.0 ## 6.0 ## 5.0 ## 8.0	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 8.0  Check tolerance cm3/1000s. : 11.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR	## 4.00 ## 23.0 ## 3.0 ## 6.0 ## 5.0 ## 8.0	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR	### 4.00 ### 4.00 ### 23.0 ### 6.0 ### 6.0 ### 5.0 ### 8.0	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0  CONTROL LEVER  control lever
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm	### 4.00 ### 4.00 ### 23.0 ### 6.0 ### 6.0 ### 5.0 ### 8.0	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0  CONTROL LEVER  control lever position degree : 64.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR	### 4.00 ### 4.00 ### 23.0 ### 6.0 ### 6.0 ### 5.0 ### 8.0	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 11.0  CONTROL LEVER  control lever position degree : 64.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve	### 4.00 ### 4.00 ### 23.0 ### 3.0 ### 6.0 ### 5.0 ### 8.0 #### 8.0	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 8.0  Check tolerance cm3/1000s. : 11.0  CONTROL LEVER  control lever position degree : 64.0  tolerance degree : + 4.0  control lever position degree : 122.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve Cravel mm	### 4.00 ### 4.00 ### 23.0 ### 3.0 ### 6.0 ### 5.0 ### 8.0 #### 8.63	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 8.0  Check tolerance cm3/1000s. : 11.0  CONTROL LEVER  control lever position degree : 64.0  tolerance degree : + 4.0  control lever position degree : 122.0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve Cravel mm	### 4.00 ### 4.00 ### 4.00 ### 23.0 ### 3.0 ### 6.0 ### 6.0 ### 8.0 ####################################	Aneroid pressure hPa : 1500  Del. quantity cm3/1000 strokes : 298.0  Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed  Tolerance cm3/1000 strokes : 8.0  Check tolerance cm3/1000s. : 11.0  CONTROL LEVER  control lever position degree : 64.0 tolerance degree : + 4.0  control lever

RATED SPEED + rack travel mm : 14.00 rack travel mm : 12.10 + Tolerance mm : + 0.25 Rated speed rpm : 1120 +	
rack travel mm : 12.10 + Tolerance mm : + 0.25	
Rated speed rom : 12.10 + Toterance mm : + 0.25	
Kated Speed rom : 1/20 +	
Tolerance 1/min : + 5 Rated speed rpm : 500	
rack travel mm : 4.00 + Pressure hPa : - rack travel mm : 9.50 Rated speed rpm : 1200 + Tolerance mm : + 0.15	
rack travel mm : 4.00 rack travel mm : 9.50	
Rated speed rpm : 1200 + Tolerance mm : + 0.15	
Totalia in in in in in in in in in in in in in	
+ MEASUREMENT	
rack travel mm : 0.50 +	
Tolerance man : + 0.50 + Rated speed rpm : 500	
Rated speed rpm : 1280 +	
+ Pressure hPa : 840	
+ rack travel mm : 2.70	
+ Tolerance mm : +- 0.20	
LOW IDLE + Pressure hPa : 290	
+ rack travel mm : 0.25	
+ Tolerance mm : $+$ 0.05	
control lever +	
position degree : 64.0 +	
tolerance degree : + 4.0 + Start interlock	
+	
control lever + Rated speed rpm : > 100	
position degree : 12.0 + Rated speed rpm : < 230	
tolerance degree : + 4.0 +	
+ Check	
Setting point w/out bumper spring + speed 1/min :> 80	
+ Check	
Rated speed rpm : 225 + speed 1/min : < 250	
CRT mm min. : > 6.40 \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
CRT mm min. : > 6.40 + FUEL DELIVERY CHARACTERISTICS	
+ FUEL DELIVERY CHARACTERISTICS	
<b>)</b>	-
Testing: + FUEL DELIVERY CHARACTERISTICS +	
Testing:  Rated speed rpm : 325  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure	_
FUEL DELIVERY CHARACTERISTICS Testing:  Rated speed rpm : 325 rack travel mm : 4.00 + hPa : -	_
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : - Rated speed rpm : 700	-
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 + hPa : - Tolerance mm : + 0.10 + Rated speed rpm : 700 Del. quantity	_
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 + hPa : - Tolerance mm : + 0.10 + Rated speed rpm : 700 Del. quantity Rated speed rpm : 375 + cm3/1000 strokes : 269.0	
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 + hPa : - Tolerance mm : + 0.10 + Rated speed rpm : 700 Del. quantity Rated speed rpm : 375 Rated speed rpm : 375 Tolerance	_
Testing:  Rated speed rpm : 325 rack travel mm : 4.00	
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10  Rated speed rpm : 375  Rated speed rpm : 375  Rated speed rpm : 375  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 269.0 Tolerance cm3/1000 strokes : + 1.0 TORQUE CONTROL	-
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10  Rated speed rpm : 375  Rated speed rpm : 375  Rated speed rpm : 375  TORQUE CONTROL Rated speed rpm : 700  Rated speed rpm : 700  TORQUE CONTROL Rated speed rpm : 700  Rated speed rpm : 700  Check tolerance cm3/1000s. : + 4.0	_
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10  Rated speed rpm : 375  Rated speed rpm : 375  Rated speed rpm : 375  TORQUE CONTROL Rated speed rpm : 700 rack travel mm : 13.10  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 269.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	_
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10  Rated speed rpm : 375  Rated speed rpm : 375  Rated speed rpm : 375  TORQUE CONTROL Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : + 0.05  FUEL DELIVERY CHARACTERISTICS  Aneroid pressure hPa : - Rated speed rpm : 700 Rated speed rpm : 700 Check tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Tolerance mm : + 0.05	
Testing:  Rated speed rpm : 325	
FUEL DELIVERY CHARACTERISTICS	
FUEL DELIVERY CHARACTERISTICS   Rated speed rpm : 325	
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Testing:  Rated speed rpm : 325 rack travel mm : 4.00	
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 Tolerance mm : + 0.10  Rated speed rpm : 375  Rated speed rpm : 375  Rated speed rpm : 375  TORQUE CONTROL Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : + 0.05  Rated speed rpm : 700 Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : + 0.05  Rated speed rpm : 700 Rated spe	
Testing:  Rated speed rpm : 325	-
Testing:  Rated speed rpm : 325	-
Rated speed rpm : 325	-
Testing:  Rated speed rpm : 325	-
Testing:  Rated speed rpm : 325 rack travel mm : 4.00 Rated speed rpm : 375  TOLERANCE CONTROL Rated speed rpm : 700 Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : 13.10 Tolerance mm : + 0.05  Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Check tolerance cm3/1000 strokes : 10.0  Aneroid pressure hPa : - Rated speed rpm : 700 Del. quantity cm3/1000 strokes : 188.0  Tolerance	_
Testing:  Rated speed rpm : 325	_

L03

Check tolerance cm3/1000s. : +- 4.0

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : +- 19.0

#### LOW IDLE

Rated speed rpm : 325

Rack travel in mm : 4.00 : + 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000S. 6.0 Spreed Tolerance cm3/1000 strokes : 5.0

cm3/1000s. : 8.0

Check tolerance

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.02.98 Test oil : ISO 4113

Combination No. : 0 402 846 080

Injection pump

Pump designation : PE6P120A320RS8044 EP type number : 0 412 826 036

Governor

Governer design. : RQV330...1050PA1027K

Governer no. : 0 421 815 311

Cust. part No. : 11031995

: -P02 V.03/97

Customer—spec. information

Customer : VCE
Motor : TD122KHE
Power KW : 209.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 150 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.35 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

	+ Tolerance mm : + 0.20
BASIC SETTING	Rated speed rpm : 775
	+ guide sleeve
Rated speed rpm : 800	+ travel mm : 6.42
	Tolerance mm : + 0.25
Rack travel in mm : 11.80	Rated speed rpm : 470
Tolerance mm : + 0.05	+ guide sleeve
	travel mm : 3.79
Del. quantity cm3/1000 strokes : 231.0	+ Tolerance mm : + 0.25
Cho/ 1000 Strokes : 231.0	Rated speed rpm : 1370
Tolerance	+ guide steeve
cm3/1000 strokes : + 1.0	+ travel mm : 13.50
Charle Adams and	+ Tolerance mm : + 0.50
Check tolerance cm3/1000s. : +- 4.0	İ
1,0000	GUIDE SLEEVE POSITION
Spreed	+
Talamana	†
Tolerance cm3/1000 strokes : 8.0	+ control lever + position degree : - 1
CHD/ 1000 SCIORES . O.U	+ Rated speed rpm : 1230
Check tolerance	+
cm3/1000s. : 11.0	+ Rack travel in mm: 9.40
	+ Tolerance mm : +- 2.50
	I
Rated speed rpm : 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 3.90	Rated speed rpm : 800
Tolerance mm : + 0.10	+ Aneroid pressure
Del. quantity	+ hPa : 1500
cm3/1000 strokes : 23.0	+ Del. quantity
Tolerance : + 3.0	+ cm3/1000 strokes : 231.0 + Tolerance
Check tolerance	- cm3/1000 strokes : +- 1.0
cm3/1000s. : $+$ 6.0	+ Check tolerance
Spreed	+  cm3/1000s. : +- 4.0
Tolerance cm3/1000 strokes : 5.0	Spreed
cm3/1000 strokes : 5.0 Check tolerance	Tolerance cm3/1000 strokes : 8.0
cm3/1000s. : 8.0	+ Check tolerance
	+ cm3/1000s. : 11.0
(D) OFTING OF INICOTION SUMP	†
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	İ
MITH GOAFUROV	CONTROL LEVER
	+
GUIDE SLEEVE TRAVEL	+ control lever
Rated speed rpm : 1105	+ position degree : 62.0 + tolerance degree : +- 4.0
guide steeve	+ coterance degree 4.0
travel mm : 9.77	+ control lever
Tolerance mm : +- 0.15	+ position degree : 120.0
Retail around mm - 700	tolerance degree : +- 4.0
Rated speed rpm : 300 guide sleeve	RATED SPEED
travel mm : 2.01	+ rack travel mm : 11.00

Rated speed rpm Tolerance 1/min		<u> </u>
rack travel mm	: 4.00	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm Tolerance 1/min	: 1180 : +- 15	+ SETTING
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1270	Rated speed rpm : 550 Pressure hPa : 1500 rack travel mm : 12.40
		Tolerance mm : + 0.10  Rated speed rpm : 550
LOW IDLE		Pressure hPa : - rack travel mm : 10.35 Tolerance mm : + 0.20
position degree tolerance degree		MEASUREMENT T
control lever		Rated speed rpm : 550
position degree tolerance degree	: 23.0 : + 4.0	Pressure hPa : 600 rack travel mm : 1.65 Tolerance mm : +- 0.20
Setting point w/o	out bumper spring	+ Pressure hPa : 260
Rated speed rpm	: 200	rack travel mm : 0.25 Tolerance mm : + 0.05
CRT mm min.	: > 6.50	+
CRT mm min. Testing:	: > 6.50	
Testing: Rated speed rpm rack travel mm	: 300 : 3.90	FUEL DELIVERY CHARACTERISTICS
Testing:	: 300 : 3.90 : +- 0.10	FUEL DELIVERY CHARACTERISTICS  Arieroid pressure hPa : 1500 Rated speed rpm : 1050
Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 300 : 3.90 : +- 0.10	FUEL DELIVERY CHARACTERISTICS  Arieroid pressure hPa : 1500 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 219.0
Testing:  Rated speed rpm rack travel mm Tolerance mm Rated speed rpm  TORQUE CONTROL Rated speed rpm	: 300 : 3.90 : ← 0.10 : 350	FUEL DELIVERY CHARACTERISTICS  Anieroid pressure hPa : 1500 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 219.0 Tolerance cm3/1000 strokes : + 3.0
Testing:  Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 300 : 3.90 : ← 0.10 : 350 : 800 : 11.80 : ← 0.05	FUEL DELIVERY CHARACTERISTICS  Arieroid pressure hPa : 1500 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 219.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed
Testing:  Rated speed rpm rack travel mm Tolerance min  Rated speed rpm  TORQUE CONTROL Rated speed rpm rack travel mm	: 300 : 3.90 : ← 0.10 : 350 : 800 : 11.80 : ← 0.05 : 1050	FUEL DELIVERY CHARACTERISTICS  Arieroid pressure hPa : 1500 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 219.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
Rated speed rpm rack travel mmm Tolerance min Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mmm Tolerance mmm Rated speed rpm rack travel mmm Tolerance mmm Rated speed rpm Rated speed rpm Rated speed rpm	: 300 : 3.90 : ← 0.10 : 350 : 800 : 11.80 : ← 0.05 : 12.00 : + 0.10 : 550	FUEL DELIVERY CHARACTERISTICS  Arieroid pressure hPa : 1500 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 219.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 10.0
Rated speed rpm rack travel mmm Tolerance min Rated speed rpm Tolerance mmm Tolerance mmm Rated speed rpm rack travel mmm Tolerance mmm Tolerance mmm Tolerance mmm Tolerance mmm Tolerance mmm Tolerance mmm Tolerance mmm	: 300 : 3.90 : ← 0.10 : 350 : 800 : 11.80 : ← 0.05 : 1050 : 12.00 : ← 0.10 : 550	FUEL DELIVERY CHARACTERISTICS  Arieroid pressure hPa : 1500 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 219.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. : 14.0  Aneroid pressure hPa : 1500
Rated speed rpm rack travel mmm Tolerance min Rated speed rpm TORQUE CONTROL Rated speed rpm rack travel mmm Tolerance mmm Rated speed rpm rack travel mmm Tolerance mmm Rated speed rpm rack travel mmm Tolerance mmm	: 300 : 3.90 : ← 0.10 : 350 : 800 : 11.80 : ← 0.05 : 12.00 : ← 0.10 : 550 : 12.40 : ← 0.10 : 690	FUEL DELIVERY CHARACTERISTICS  Arieroid pressure hPa : 1500 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 219.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000 strokes : 14.0  Aneroid pressure

Check tolerance cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 550

Del. quantity

cm3/1000 strokes : 208.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : + 4.0

#### STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.35 Tolerance mm : + 0.30

Del. quantity

cm3/1000 strokes : 160.0

Tolerance

cm3/1000 strokes : - 15.0

Check tolerance

cm3/1000s. : +- 19.0

## LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 3.90
Tolerance mm : ← 0.10
Del. quantity
cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0 Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.03.98 Test oil : ISO 4113

Combination No. : 0 400 864 104

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A50877L

Governer no. : 0 420 232 632

Cust. part No. : 0423 2047 KY

Customer-spec. information
Customer : KHD-DMI
Motor : BF4L 913 C
Power KW : 78.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter: 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50 Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.70 Tolerance mm : +- 0.05

_____

Del. quantity cm3/1000 strokes : 92.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 8.0
cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 325	<pre>control lever position degree : 104.0 tolerance degree : + 4.0</pre>
Rack travel in mm: 8.20 Tolerance mm: : + 0.10 Del. quantity cm3/1000 strokes: 11.5 Tolerance cm3/1000 strokes: + 2.0	RATED SPEED rack travel mm : 11.70 Rated speed rpm : 1295 Tolerance 1/min : + 5
Check tolerance cm3/1000S. : + 4.5 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1355 Tolerance 1/min : +- 15
cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1550
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1400 Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever position degree : FREE Rated speed rpm : 800  Rack travel in mm : 0.50	control lever position degree : 70.0 tolerance degree : +- 4.0
Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring pre-tension click setting x : 3.50	Rated speed rpm : 325 rack travel mm : 7.70 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1250	CRT mm min. : > 19.50
Aneroid pressure + + + + + + + + + + + + + + + + + + +	Testing:
Del. quantity cm3/1000 strokes : 92.0 Tolerance	Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : +- 0.10
cm3/1000 strokes : +- 1.0 +- Check tolerance cm3/1000s. : +- 3.0 +- Spreed Tolerance	rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : +- 30
cm3/1000 strokes : 3.5	

Rated speed rpm : 1250 rack travel mm : 12.70 Tolerance mm : +- 0.05

500 Rated speed rpm :

#### STARTING FUEL DELIVERY

Rated speed rom : 1C0 rack travel mm : 20.25 Tolerance mm : **+-** 0.75 Del. quantity

cm3/1000 strokes : 130.0 Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : + 10.0

#### LOW IDLE

Rated speed rpm : 325

8.20 Rack travel in mm : Tolerance mm : + 0.10 Del. quantity

cm3/1000 strokes : 11.5

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s.: +- 4.5

Spreed

Tolerance

5.5 cm3/1000 strokes :

Check tolerance

cm3/1000s. 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.10.97 Test oil : ISO 4113

Combination No. : 0 400 874 254

Injection pump

Pump designation: PES4A95D32ORS2847 . EP type number: 0 410 894 990

Governor

Governer design. : RSV375...1200A5C2268

: R

Governer no. : 0 420 233 337

Cust. part No. :

Customer—spec. information Customer : VALMET Motor : 420 DS Power KW : 84.0

#### TEST BENCH REQUIREMENTS

Inlet line : 2.3

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.55
Tolerance mm : +- 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-2-4-3

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

Beginning of delivery differende

and maximum rack

travel : 9.00
Tolerance mm : + 0.50
Difference * CS : 5.00

#### BASIC SETTING

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	+ Check tolerance + cm3/1000s. : 6.0
Check tolerance cm3/1000s. : 6.0	<u> </u>
	CONTROL LEVER
Rated speed rpm : 375	control lever
	+ position degree : 104.0 + tolerance degree : +- 4.0
Rack travel in mm: 5.20	+
Tolerance mm : + 0.10	+ RATED SPEED
Del. quantity	+ rack travel mm : 11.50
cm3/1000 strokes : 13.0	Rated speed rpm : 1245
Tolerance	+ Tolerance 1/min : + 5
cm3/1000 strokes : + 3.0	1
Check tolerance	rack travel mm : 4.00
cm3/1000s. : + 5.5	+ Rated speed rpm : 1325
Spreed	Tolerance 1/min : +- 15
Tolerance	T TOCE GIRES : / III
cm3/1000 strokes : 3.5	rack travel mm : 0.85
Check tolerance	Tolerance mm : +- 0.55
cm3/1000s. : 5.0	+ Rated speed rpm : 1425
CM3/10005. : 3.0	+ Rated speed rpm : 1425
	# 1
(D) COTTAIN OF THE FORTION DUMP	+ rack travel mm : 4.00
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1330
WITH GOVERNOR	+ Tolerance 1/min : +- 15
aantmat lavan	LOW IDLE
control lever	T and the trans
position degree : - 3	+ control lever
Rated speed rpm : 800	+ position degree : 73.0
0. 10. 401. 40 0. 50	tolerance degree : + 4.0
Rack travel in mm: 0.50	<u> </u>
Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 375
pre-tension	rack travel mm : 4.70
click setting x : 4.50	+ Tolerance mm : + 0.10
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	+
	+ CRT mm min. : > 19.50
Rated speed rpm : 1200	+
Aneroid pressure	+ Testing:
hPa : 700	1
Del. quantity	Rated speed rpm : 375
cm3/1000 strokes : 100.0	+ rack travel mm : 5.20
Tolerance	Tolerance mm : + 0.10
cm3/1000 strokes : + 1.0	10001 G100 HWW 0.10
Check tolerance	rack travel mm : 2.00
cm3/1000s. : + 3.0	+ Rated speed rpm : 475
Special	+ Tolerance 1/min : + 30
Spreed Tallerance	T rocerance in in 1 7 30
Tolerance cm3/1000 strokes : 3.5	T
cm3/1000 strokes : 3.5	TORQUE CONTROL

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 13.20 : ← 0.05 : 1050
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 700 : 13.20 : ← 0.05
Rated speed rpm Pressure hPa	: 500 : -
rack travel mm Tolerance mm	: 12.00 : +- 0.10
MEASUREMENT	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 350 : 12.40 : ← 0.15
Pressure hPa rack travel mm Tolerance mm	: 440 : 12.90 : ← 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	: 700
Rated speed rpm Del. quantity	: 700
cm3/1000 strokes Tolerance	: 91.0
cm3/1000 strokes Check tolerance	: ← 2.0
cm3/1000s.	: +- 4.0
rack travel mm Tolerance mm	: 13.00 : + 0.10
Aneroid pressure hPa	: -

Rated speed rpm	:	500
Del. quantity cm3/1000 strokes	:	79.0
Tolerance cm3/1000 strokes	: +	- 1.0
Check tolerance cm3/1000s.	: +	3.0
Spreed Tolerance	•	0.0
cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	:	6.0

# STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	:	100 20.25
Del. quantity cm3/1000 strokes Tolerance	:	205.0
cm3/1000 strokes Check tolerance	: +-	- 5.0
cm3/10008.	: +-	- 10.0

# LOW IDLE

Rated speed rpm	:	375
Rack travel in mm Tolerance mm Del. quantity	; +-	5.20 0.10
	:	13.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/10GOS. Spreed Tolerance	: +-	5.5
7/4000	:	3.5
cm3/1000s.	:	5.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 01.10.97 : ISO 4113

Combination No. : 0 400 876 421

Injection pump

Pump designation : PES6A95D32ORS2848 : 0 410 896 892

EP type number

Governor

Governer design. : RSV500...1100A5c2269

: R

Governer no.

: 0 420 233 338

Cust. part No. :

Customer-spec. information

Customer Motor

: VALMET

: 634 DS

Power KW

: 140.0

## TEST BENCH REQUIREMENTS

Inlet line

: 2.3

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

: **←** 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mma : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

rest pressure bar : 26.0 Tolerance bar : - 1.0

Prestroke mm 2.55 : +- 0.05

Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : +- 0.75

Beginning of delivery differende

and maximum rack

travel Tolerance mm 10.50 : +- 1.50 : 5.00 Difference * CS :

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 133.0

Tolerance cm3/1000 strokes : +- 1.0	- Tolerance - cm3/1000 strokes : +- 1.0 - Check tolerance
Check tolerance cm3/1000s. : + 3.0	- cm3/1000s. : +- 3.0 - Spreed - Tolerance
Spreed	- cm3/1000 strokes : 3.5 - Check tolerance
Tolerance cm3/1000 strokes : 3.5	- theck toterance - cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 500	control lever position degree : 99.0 tolerance degree : +- 4.0
Rack travel in mm : 4.30 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 21.0	RATED SPEED rack travel mm : 13.00 Rated speed rpm : 1145 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15
Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000S. : 9.0	- rack travel mm : 0.85 - Tolerance mm : +- 0.55 - Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 74.0 tolerance degree : +- 4.0
control lever position degree : -3	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 100
Rack travel in mm : 0.50 Tolerance mm : + 0.20	- CRT mm min. : > 19.50 - - Testing:
governor spring pre-tension click setting x : 3.75	- resting: - Rated speed rpm : 500 - rack travel mm : 4.30
CLICK SELLING X . 3.13	- Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	- rack travel mm : 2.00 - Rated speed rpm : 530
Rated speed rpm : 1100 + Ameroid pressure +	Tolerance 1/min : +- 30
hPa : - + + + + + + + + + + + + + + + + + +	SET IDLE AUXILIARY SPRING
cm3/1000 strokes : 133.0 +	- rack travel mm : 2.00

TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 1100 : 14.05 : ← 0.05	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 14.60 : +- 0.10	
Rated speed rpm rack travel mm Tolerance mm	: 975 : 14.30 : +- 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 14.30 : + 0.10	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : - : 13.10 : +- 0.05	
MEASUREMENT		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 550 : 13.20 : +- 0.10	
Pressure hPa rack travel mm Tolerance mm	: 655 : 13.90 : + 0.05	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm	: - : 700	
Del. quantity cm3/1000 strokes	: 137.0	
Tolerance cm3/1000 strokes	: + 2.0	
Check tolerance cm3/1000s.	: +- 4.0	

rack travel mm Tolerance mm	: 14.30 : + 0.10
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm	: 500
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 4.30 : + 0.10 : 21.0 : + 3.0 : + 4.5 : 5.5
Check tolerance cm3/1000s.	: 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.02.98 : ISO 4113

Combination No. : 0 402 076 817

Injection pump

Pump designation : PES6P120A720RS3367

EP type number

: 0 412 026 788

**Governor** 

Governer design. : RSV525...1000P2A640

: -1

Governer no.

: 0 421 833 604

Cust. part No. : RE71286

Customer-spec. information : DEERE Customer : 6081HT001 Motor Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 457 413 010

Inlet press. bar : : + 0.1Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : **←** 1.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 3.60 : **←** 0.05 Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm :  $\leftarrow$  1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Start of delivery mark

*NW after s.o.d. : 7.50 : + - 0.50Tolerance

Check

tolerance *NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

14.00 travel Difference * CS : 2.50

BASIC SETTING

Rated speed rpm : 1000

-	<b>-</b>
Rack travel in mm : 13.20 Tolerance mm : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1000
Del. quantity cm3/1000 strokes : 179.5	- Aneroid pressure - hPa : 1400
Tolerance - 1.0	Del. quantity cm3/1000 strokes : 179.5 Tolerance
Check tolerance cm3/1000s. : +- 3.0	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000s. : +- 3.0
Spreed	- Spreed - Tolerance - cm3/1000 strokes : 4.0
Tolerance cm3/1000 strokes : 4.0	Check tolerance cm3/1000s. : 6.5
Check tolerance cm3/1000s. : 6.5	
	- CONTROL LEVER
Rated speed rpm : 525	- control lever - position degree : 87.5 - tolerance degree : +- 4.0
Rack travel in mm : 5.10 - Tolerance mm : +- 0.10 - Del. quantity	RATED SPEED : 12.20
cm3/1900 strokes : 26.5 Tolerance cm3/1900 strokes : +- 2.0	Rated speed rpm : 1065 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 4.00 Rated speed rpm : 1115
Spreed Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : 6.0 - Check tolerance - cm3/1000S. : 8.0	- rack travel mm : 0.85 - Tolerance mm : +- 0.55 - Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP	rack travel mm : 4.00 Rated speed rpm : 1120
WITH GOVERNOR	Tolerance 1/min : +- 15
GUIDE SLEEVE POSITION	LOW IDLE
control lever	
position degree : -3 - Rated speed rpm : 800 -	- control lever - position degree : 70.0 - tolerance degree : +- 4.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	Setting point w/out bumper spring
governor spring pre-tension	Rated speed rpm : 525 - rack travel mm : 4.30 - Tolerance mm : +- 0.10
click setting x : 2.50	- Iolerance mm : +- 0.10 -

Rated speed rpm	: 100	‡	Check tolerance cm3/1000s.	: + 4.0
CRT mm min.	: > 19.00	<u> </u>		
Testing:		$\frac{1}{2}$	Aneroid pressure	• -
Rated speed rpm rack travel mm	: 525	Ŧ	Rated speed rpm	: 500
rack travel mm Tolerance mm	: ← 0.10	‡	Del. quantity cm3/1000 strokes	: 165.0
	<del></del>	<del></del> ‡	Tolerance cm3/1000 strokes	: +- 2.0
TORQUE CONTROL Rated speed rom	: 1000	‡	Check tolerance cm3/1000s.	: +- 4.0
rack travel mm	: 13.20	1		•
Tolerance mm	: ← 0.05	<u>†</u>		
Rated speed rpm rack travel mm	: 700 : 14.00	•	STARTING FUEL DEL	IVERY
rack travel mm Tolerance m/m	: + 0.10	I	Rated speed rpm	: 100
TOPEST GRICE III		1	rack travel mm	: 20.50
			rack travel mm Tolerance mm	: +- 0.50
ANEROID/ALTITUDE		1	Del. quantity	
COMPENSATOR TEST		+	cm3/1000 strokes	: 105.0
		+	Tolerance	
		+	cm3/1000 strokes	: <del>+-</del> 20.0
SETTING		‡	Check tolerance cm3/1000s.	: <b>←</b> 25.0
Rated speed rpm Pressure hPa	: 500 : 14 <b>0</b> 0	<u>†</u>		
Rated speed rpm	: 500	Ţ		
Pressure hPa	: -	+	LOW IDLE	
rack travel mm		+		
Tolerance mm	: ← 0.10	‡	Rated speed rpm	: 525
MEASUREMENT		+	Rack travel in mm	
		+		: <del>+-</del> 0.10
Rated speed rpm	: 500	+	Del. quantity	0. F
Properties has	: 975	†	cm3/1000 strokes Tolerance	: 26.5
Pressure hPa rack travel mm		<u> </u>	cm3/1000 strokes	· +- 2 N
Tolerance mm		Ī	Check tolerance	
		1	cm3/1000s.	: +- 4.5
Pressure hPa	: 830	+	Spreed	–
rack travel mm	: 12.70	+	Tolerance	
Tolerance mm	: <b>← 0</b> .05	+	cm3/1000 strokes	: 6.0
		†	Check tolerance	. 00
		İ	cm3/1000s.	: 8.0
FUEL DELIVERY CHA	NRACTERISTICS			
Aneroid pressure		-	<del></del>	
hPa	: 1400	I	End of test speci	fication sheet
Rated speed rpm		<del> </del>		
Del. quantity		+		
cm3/1000 strokes	: 199.5	+		
Tolerance		+		
cm3/1000 strokes	: <del>←</del> 2.0	‡		

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.03.98 Edition Test oil : ISO 4113

Combination No. : 0 402 016 708

Injection pump

Pump designation : PES6P120B300RS3393

EP type number : 0 412 026 805

Governor

Governer design. : Governer no.

Cust. part No. : 3827028 P01 v.11.97

Customer-spec. information Customer : PENTA Motor : TAD 740 G : 259.0 Power KW

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5 Tolerance bar :  $\leftarrow$  0.1

Tolerance L/h : <del>+-</del> 20.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter :

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 3.55 : + 0.05 Prestroke mm Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 12.50 Tolerance mr: +-0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: + 0.50Tolerance

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

#### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.50 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes	: 232.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed	
Tolerance cm3/1000 strokes	: 7.0
Check tolerance cm3/1000s.	: 11.0
Rated speed rpm	: 300
Rack travel in mm Tolerance mm Dol. quantity	4.40 : + 0.30
cm3/1000 strokes	: 30.0
Tolerance cm3/1000 strokes	: <b>←</b> 3.0
Check tolerance cm3/1000s. Spreed	: <b>←</b> 6.0
Tolerance cm3/1000 strokes	
Check tolerance	: 5.0
cm3/1000s.	: 8.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm	: 700
Aneroid pressure	: -
Del. quantity cm3/1000 strokes	: 232.0
Tolerance cm3/1000 strokes	: <b>←</b> 1.0
Check tolerance cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 7.0
Check tolerance cm3/1000s.	: 11.0

LOW IDLE		
Testing:		
Rated speed rpm rack travel mm Tolerance mm	: : +-	300 4.40 0.30
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	:	700 12.50 0.10
LOW IDLE	-	
Rated speed rpm	:	300
Rack travel in mm Tolerance mm Del. quantity	: +-	4.40 0.30
cm3/1000 strokes Tolerance	:	30.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s. Spreed	: +-	6.0
	:	5.0
Check tolerance cm3/1000s.	:	0.8
End of test specia	ficat [.]	ion sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 27,02,98 : ISO 4113

Cambination No. : 0 402 046 850

Injection pump

Pump designation : PES6P120A320RS3320 EP type number : 0 412 026 763

Governor

Governer design. : RQV275...1000PA995

: -2

Governer no.

: 0 421 813 940

Cust. part No. : CCEP-5134 66-211

Customer-spec. information

Customer : RENAULT V.I. : MIDR 063540 M/3 Motor^a

Power KW : 236.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. 'C Tolerance °C 2.0

Overflow valve : 2 417 415 071

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar : **←** 1.5

Test lines : 1 680 750 089

Outside diameter: 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

3.40 Prestroke mm : +- 0.05 Tolerance mm

Check

: ← 0.10 tolerance mm

Rack travel in mm : 19.50 : +- 1.50 Tolerance mm

: 1-5- 3- 6- 2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance :  $\leftarrow$  0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

CRT ZERO POSITION

Rack travel in mm: 12.50

Tolerance mm	: <b>-</b> 0.05	∔ guide sleeve
		+ travel mm : 6.09
		+ Tolerance mm : + 0.20
BASIC SETTING		1
		+ Rated speed rpm : 343
Rated speed rpm	• 600	f guide sleeve
nacca opeca i pa	. 000	travel mm : 2.33
Del. quantity		+ Tolerance mm : + 0.20
cm3/1000 strokes	· 240 0	Trocci di lee initi
TIMO TODO SETORES		Rated speed rpm : 393
Tolerance		guide sleeve
cm3/1000 strokes	· + 1 O	travel mm : 2.99
CIRCY TOOU SETURES	. • 1.0	Tolerance mm : +- 0.20
Check tolerance		Toterance init
		T Stated and all 100
cm3/1000s.	: <del>←</del> 4.0	Rated speed rpm : 490
	- tuj	+ guide steeve
Spreed		travel mm : 3.81
		† Tolerance mm : + 0.20
Tolerance		†
cm3/1000 strokes	: 5.0	+ Rated speed rpm : 1370
		+ guide sleeve
Check tolerance		† travel mm : 11.50
cm3/1000s.	: 9.0	Tolerance mm : + 0.50
		↓ GUIDE SLEEVE POSITION
Rated speed rpm	: 300	+
macou oprou i piii		1
Rack travel in mm	-7 40	+ control lever
Tolerance am		position degree : - 1
Del. quantity	0.10	Rated speed rpm : 1180
cm3/1000 strokes	. 25.0	T Rated speed rpill . 1100
	: 2.0	T Dools to your 1 to your 1 1/0
Tolerance		Rack travel in mm: 11.40
cm3/1000 strokes		+ Tolerance mm : + 1.30
Check tolerance		†
cm3/1000s.	: <del>←</del> 5.0	
Spreed		+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance		†
cm3/1000 strokes	: 8.0	+ Rated speed rpm : 600
Check tolerance		+ Aneroid pressure
cm3/1000s.	: 12.0	+ hPa : 1000
		† Del. quantity
		+ cm3/1000 strokes : 240.0
(B) SETTING OF IN	JECTION PUMP	† Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : +- 1.0
		+ Check tolerance
		+ cm3/1000s. : +- 4.0
GUIDE SLEEVE TRAV	FL	Spreed
		+ Tolerance
Rated speed rpm	: 1086	cm3/1000 strokes : 5.0
guide sleeve		- Check tolerance
travel mm	: 8.46	cm3/1000s. : 9.0
Tolerance mm	: + 0.10	1
TO CET CITICE IMIT	0.10	1
Rated speed rpm	: 300	
guide sleeve	. 500	CONTROL LEVER
travel mm	: 1.66	T CONTROL LLVER
		T control loven
Tolerance mm	: <del>+</del> 0.10	+ control lever
D-4 1	יינים	position degree : 306.0
Rated speed rpm	: 773	+ tolerance degree : +- 4.0

		+ Tolerance mm	: <b>←</b> 0.20
RATED SPEED rack travel mm	: -1.00	+ MEASUREMENT	
Rated speed rpm Tolerance 1/min	: 1075 : +- 5	+ Rated speed rpm	: 500
rack travel mm	: -8.50	† Pressure hPa	: 160
Rated speed rpm Tolerance 1/min	: 1195	Pressure hPa rack travel mma Tolerance mm	: -1.70
Toterance Train	; +- 1)	+ Toterance mm	: +- 0.10
rack travel mm	: -12.00	Pressure hPa	
Tolerance mm Rated speed rpm	: 1350	rack travel mm Tolerance mm	: −0.75 : ← 0.05
		<u> </u>	
		Start interlock	
LOW IDLE		Rated speed rpm	: > 100
		Rated speed rpm Rated speed rpm	· : < 195
control lever		Check	
position degree		+ speed 1/min	: > 80
tolerance degree	; +- 4.0	+ Check + speed 1/min	: < 215
Testing:			
Rated speed rpm	: 300	FUEL DELIVERY CHA	ARACTERISTICS
rack travel mm Tolerance mm	: -7.40 · +- ∩ 10	İ	
		Aneroid pressure	
Rated speed rpm	: 200	+ hPa + Rated speed rpm	: 1000
CRT mm max.	: < -5.90	<pre>Del. quantity</pre>	
Dokad as and sur-	. 7/5	+ cm3/1000 strokes	: 228.0
Rated speed rpm	: 303	+ Tolerance + cm3/1000 strokes	: +- 3.0
		+ Check tolerance	
TORQUE CONTROL Rated speed rpm	. 600	t cm3/1000s.	: +- 6.0
		+	<del></del>
Rated speed rpm Tolerance mm	: 1000 : +- 0.10	+ Aneroid pressure + hPa	: 1000
TOTEL OFFE HIN	0.10	Rated speed rpm	
Rated speed rpm		+ rack travel mm	: -4.00
rack travel mm Tolerance mm	: -4.00 : + 0.10	+ Tolerance mm + Del. quantity	: +- 0.10
		+ cm3/1000 strokes	: 114.0
ANEROID/ALTITUDE		+ Tolerance + cm3/1000 strokes	· +- 5 O
COMPENSATOR TEST		+ Check tolerance	
		+ cm3/1000s.	: +- 8.0
SETTING		+ Spreed + Tolerance	
		+ cm3/1000 strokes	: 10.0
Rated speed rpm Pressure hPa	: 500 : 1000	+ Check tolerance + cm3/1000s.	: 14.0
		+	<b>,</b> 1 <b>⊤•∪</b>
Rated speed rpm Pressure hPa	: 500	Aneroid pressure	
rack travel mm	-2.25	+ hPa	: -

Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 154.0 Tolerance cm3/1000 strokes :  $\leftarrow$  1.0 Check tolerance cm3/1000s. : +- 4.0 STARTING FUEL DELIVERY Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes :  $\leftarrow$  15.0 Check tolerance : +- 19.0 cm3/1000S. LOW IDLE Rated speed rpm : 300 Rack travel in mm : -7.40Tolerance  $m_0$ :  $\leftarrow 0.10$ Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance : **←** 5.0 cm3/1000s.Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance 12.0 cm3/1000s. End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.02.98 Test oil : ISO 4113

Combination No. : 0 402 046 865

Injection pump

Pump designation : PES6P120A320LS3321

: -1

EP type number : 0 412 026 776

Governor

Governer design. : RQ275/950PA1085-1

Governer no. : 0 421 801 761

Cust. part No. : 645 625

Customer—spec. information Customer : RABA

Motor : SIEHE BEMERKUNG

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance *C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05 Check

tolerance mm : **←** 0.10

Rack travel in mm : 12.50 Tolerance n : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance  $^{\circ}NW$  : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 14.60 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 193.0	+ Tolerance mm : + 0.10
Tolerance		Rated speed rpm : 440 guide sleeve
ca3/1000 strokes	: + 1.0	+ travel mm : 6.00 + Tolerance mm : + 0.10
Check tolerance cm3/1000s.	: - 4.0	Rated speed rpm : 1170
Spreed		+ guide sleeve + travel mm : 11.50 + Tolerance mm : + 0.50
Tolerance Cn3/1000 strokes	: 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: 9.0	‡
		+ control lever + position degree : 109 + Rated speed rpm : 500
Rated speed rpm	: 275	+ Rack travel in mm: 20.00
Rack travel in mo Tolerance mm Del. quantity	_	Tolerance mm : + 0.80
cm3/1000 strokes Tolerance	: 24.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Check tolerance	: + 3.0	+ Rated speed rpm : 600 + Ameroid pressure
cm3/1000s. Spreed	: + 6.0	hPa : 900 Del. quantity
Tolerance cm3/1000 strokes	: 8.0	+ cm3/1000 strokes : 193.0 + Tolerance
Check tolerance cm3/1000s.	: 12.0	+ cm3/1000 strokes : + 1.0 + Check tolerance - cm3/1000s. : + 4.0
(B) SETTING OF IN	NJECTION PUMP	+ Spreed + Tolerance
WITH GOVERNOR		+ cm3/1000 strokes : 5.0 + Check tolerance
GUIDE SLEEVE TRAN	VEL.	+ cm3/1000s. : 9.0
Rated speed rpm guide sleeve	: 1003	T CONTROL LEVER
travel mm	: 6.55	L CONTROL LEVER
Tolerance mm	: + 0.10	+ control lever
. Octor drive mail		position degree : 37.0
Rated speed rpm guide sleeve	: 275	tolerance degree : +- 4.0
travel mm	: 2.85	+ control lever
Tolerance mm	: +- 0.10	<pre>position degree : 99.0 tolerance degree : + 4.0</pre>
Rated speed rpm guide sleeve	: 950	RATED SPEED
travel mm	: 6.00	+ rack travel mm : 13.60
Tolerance mm	: + 0.10	Rated speed rpm : 995 Tolerance 1/min : +- 5
Rated speed rpm	: 369	+
guide sleeve		+ rack travel mm : 4.00
travel mm	: 5.24	+ Rated speed rpm : 1090

Tolerance 1/min : + 15 rack travel mm : 0.50 : + 0.50 Tolerance mm Rated speed rpm : 1200 LOW IDLE control lever position degree : 75.0 tolerance degree : + 4.0 control lever position degree : tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 175 CRT mma min. ; > 8.30 Testing: 275 Rated speed rpm : rack travel mm 5.70 : **→** 0.10 Tolerance mm rack travel mm 2.00 Rated speed rpm : 355 Tolerance 1/min : +- 20 TORQUE CONTROL Rated speed rpm 600 rack travel mm 14.60 Tolerance mm : + 0.05Rated speed rpm : 950 rack travel mm 14.60 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 Pressure hPa 900 14.60 rack travel mm : + 0.05 Tolerance mm

rack travel mm : 12.40 : + 0.20Tolerance mm **MEASUREMENT** Rated speed rpm 500 240 Pressure hPa : 13.10 rack travel mm : + 0.15 Tolerance mm Pressure hPa 350 rack travel mm 13.80 Tolerance mm : + 0.05FUEL DELIVERY CHARACTERISTICS Aneroid pressure 900 hPa Rated speed rpm 950 Del. quantity cm3/1000 strokes : 185.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s. : +- 6.0

Aneroid pressure
hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 114.0
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.0

#### STARTING FUEL DELIVERY

ESS test: With 24 V solenoid activated, rack must reach start position in max. control lever setting.

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 154.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000s. : +- 24.0

Rated speed rpm :

Pressure hPa

500

# LOW IDLE

Rated speed rpm	:		275	
Rack travel in mm	:		5.70	
Tolerance mm	: -	₩	3.15	
Del. quantity				
cm3/1000 strokes	:		24.0	
Tolerance				
cm3/1000 strokes	:		3.0	
Check tolerance				
cm3/1000s.	:	+-	6.0	
Spreed				
Tolerance			0.0	
	:		8.0	
Check tolerance			42.0	
cm3/1000s.	:		12.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.02.97 Test oil : ISO 4113

Combination No. : 0 402 046 868

Injection pump

Pump designation : PES6P110A320RS3349

EP type number : 0 412 016 753

Governor

Governer design. : RQV350...1400PA1267K

Governer no. : 0 421 815 503

Cust. part No. : 16700-D8810

Customer-spec. information

Customer : NMI

Motor : M 3.6 TI L

Power KW : 117.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance *C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : **←** 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length man : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.55 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 12.50

Tolerance mm : + 0.05

	+ guide sleeve
Del. quantity	+ travel mm : 3.96
cm3/1000 strokes : 134.0	Tolerance man : + 0.25
	†
Tolerance	+ Rated speed rpm : 1730
cm3/1000 strokes : +- 1.0	+ guide sleeve
	+ travel mm : 13.50
Check tolerance	+ Tolerance mm : + 0.50
$cm3/1000$ S. : $\leftarrow$ 3.0	†
Connect	CUITAE OLEGAE DOCTIVON
Spreed	+ GUIDE SLEEVE POSITION
Tolerance	1
cm3/1000 strokes : 5.0	- control lever
CHO/1000 Strokes . J.U	+ position degree : - 1
Check tolerance	Rated speed rpm : 1545
cm3/1000s. : 9.0	T Raceu speed rpm . 1949
	Rack travel in mm : 11.50
	+ Tolerance mm : + 2.00
	Total drice min
Rated speed rpm : 350	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm : 9.50	+
Tolerance mm : + 0.10	+ Rated speed rpm : 1300
Del. quantity	+ Aneroid pressure
cm3/1000 strokes : 28.0	+ hPa : -
Tolerance	+ Del. quantity
cm3/1000 strokes : +- 2.5	+ cm3/1000 strokes : 134.0
Check tolerance	+ Tolerance
cm3/1000s. : +- 5.0	+ cm3/1000 strokes : +- 1.0
Spreed	+ Check tolerance
Tolerance	+ cm3/1000s. : $+$ 3.0
cm3/1000 strokes : 6.8	+ Spreed
Check tolerance	+ Tolerance
cm3/1000s. : 10.0	+ cm3/1000 strokes : 5.0
	+ Check tolerance + cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	$\frac{1}{1}$ cm3/1000s. : 9.0
WITH GOVERNOR	Ī
MILLI GOACULOK	I
	+ CONTROL LEVER
GUIDE SLEEVE TRAVEL	-
· · · · · · · · · · · · · · ·	+ control lever
Rated speed rpm : 1421	position degree : 64.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 10.03	+
Tolerance mm : + 0.15	+ control lever
	+ position degree : 122.0
Rated speed rpm : 350	tolerance degree : +- 4.0
guide sleeve	<b>†</b>
travel mm : 1.46	RATED SPEED
Tolerance mm : + 0.20	rack travel mm : 11.50
Oated amend man : OO/	+ Rated speed rpm : 1410
Rated speed rpm : 996	Tolerance 1/min ·: +- 5
guide sleeve	T mack thought and the 4 000
travel mm : 6.78 Tolerance mm : + 0.25	+ rack travel mm : 4.00 + Rated speed rpm : 1540
Tolerance mm : + 0.25	+ Rated speed rpm : 1540 + Tolerance 1/min : +- 15
Rated speed rpm : 610	T localite initial : 7 13
hated speed (pill . Oto	rack travel mm : 0.50
	I TOOK CIEVEE HAII . U.SU

<b>T</b> .1	0.50	1	
Tolerance mm Rated speed rpm	: ← 0.50 : 1640	Aneroid pressure	
		+ hPa + Rated speed rpm	780
		- Del. quantity - cm3/1000 strokes	: 118.0
LOW IDLE		Tolerance cm3/1000 strokes	: <b>←</b> 2.0
control lever		+ Check tolerance + cm3/1000s.	: + 5.0
position degree tolerance degree		+ Spreed + Tolerance	40.0
control lever		cm3/1000 strokes Check tolerance	
position degree tolerance degree	: 27.0 : \( \) 4.0	- cm3/1000s.	: 16.0
Setting point w/c	out bumper spring	Aneroid pressure hPa	: -
Rated speed rpm	: 250	+ Rated speed rom + rack travel mm	: 1000 : 11.70
CRT mm main.	: > 10.50	Tolerance mm  Del. quantity	: + 0.20
Testing:		+ cm3/1000 strokes	: 121.0
Rated speed rom	: 350	+ Tolerance + cm3/1000 strokes	: + 3.0
rack travel mm Tolerance mm		+ Check tolerance + cm3/1000s.	: + 6.0
Rated speed rpm	: 400	Ī	
TORQUE CONTROL		- STARTING FUEL DEL	IVERY
Rated speed rpm		Rated speed rpm	: 100
rack travel mm Tolerance mm		Del. quantity cm3/1000 strokes	: 200.0
Rated speed rpm		Tolerance cm3/1000 strokes	: +- 20.0
rack travel mm Tolerance mm	: 11.95 : + 0.05	+ Check tolerance + cm3/1000s.	: + 25.0
Rated speed rpm	: 1000_	† †	
rack travel mm Tolerance mm	: 11.70 : ← 0.20	‡ <u></u>	
		+ LOW IDLE	
Start interlock		- Rated speed rpm	
Rated speed rpm	: < 200	+ Rack travel in mm + Tolerance mm	: 9.50 : +- 0.10
Rated speed rpm		Del. quantity cm3/1000 strokes	
Check speed 1/min	<b>:</b> < 180	Tolerance cm3/1000 strokes	: +- 2.5
Check	:> 270	Check tolerance cm3/1000s.	: +- 5.0
speed 1/min	. > 210	Spreed Tolerance	· +- 5.0
FUEL DELIVERY CHA	RACTERISTICS	cm3/1000 strokes	: 6.0

Check tolerance cm3/1000s.	:	10.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.03.98 Test oil : ISO 4113

Combination No. : 0 402 066 704

Injection pump

Pump designation : PES6P120A120RS3358 : D 412 026 784

El cype hombe

Governor

Governer design. : RSV475...1250P2A613

Governer no. : 0 421 833 501

Cust. part No. : 3927359

Customer—spec. information

Customer : CDC

Motor : 6BTA-590 ELITE

Power KW : 149.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 7.75

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.45

Tolerance mm : ← 0.05	Tolerance
Tolerance	- cm3/1000 strokes : +- 1.0 - Check tolerance
cm3/1000 strokes : + 1.0	- cm3/1000s. : +- 3.0
CHEST TOCO SCIONCES	- Spreed
Check tolerance	- Tolerance
cm3/1000s. : + 3.0	- cm3/1000 strokes : 4.0
	- Check tolerance
Spreed -	- cm3/1000s. : 7.5
Tolerance	
cm3/1000 strokes : 4.0	
CIIS/ 1000 SCIONES . 4.0	- CONTROL LEVER
Check tolerance	
cm3/1000s. : 7.5	- control lever
	- position degree : 108.0
†	tolerance degree : + 4.0
Rated speed rpm : 475	- - RATED SPEED
nated speed (pill . 415	- rack travel mm : 11.45
Rack travel in mm: 5.50	- Rated speed rpm : 1305
Tolerance man : + 0.10	- Tolerance 1/min : + 5
Del. quantity	-
cm3/1000 strokes : 22.0	- rack travel mm : 4.00
Tolerance	- Rated speed rpm : 1415
cm3/1000 strokes : +- 2.0 Check tolerance	- Tolerance 1/min : +- 15
cm3/1000s. : + 4.5	- - rack travel mm : 0.85
Spreed	- Tolerance mm : + 0.55
Tolerance	- Rated speed rpm : 1530
cm3/1000 strokes : 6.0	_
Check tolerance	•
cm3/1000s. : 9.0	
	- LOW IDLE
(B) SETTING OF INJECTION PUMP	L
WITH GOVERNOR	- -
+	- control lever
†	- position degree : 84.0
CUIDE CUEDE DOCUTION	- tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	- - Setting point w/out bumper spring
]	-
control lever	- Rated speed rpm : 475
position degree : - 3	- rack travel mm : 5.00
Rated speed rpm : 800	- Tolerance mm : +- 0.10
Rack travel in mm : 0.50	- - Testing:
Tolerance mm : + 0.20	- restrig. -
1010.47100 1141	- Rated speed rpm : 475
governor spring	rack travel mm : 5.50 Tolerance mm : +- 0.10
pre-tension -	- Tolerance mm : +- 0.10
click setting x : 3.75	-
	- rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 600 - Tolerance 1/min : +- 30
TOLL LOAD DELIVER! AT FOLL LOAD STOP	
Rated speed rpm : 1250	
Aneroid pressure	- TORQUE CONTROL
hPa : 1500	- Rated speed rpm : 1250

rack travel mm : 12.45 Tolerance mm : +- 0.05

Rated speed rpm : 750 rack travel mm : 12.45 Tolerance mm : + 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.45
Tolerance mm : + 0.05

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.50
Tolerance mm : + 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 900 rack travel mm : 11.50 Tolerance mm : + 0.20

Pressure hPa : 575
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1500
Rated speed rpm : 750
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance

cm3/1000 strokes : 12.0 Check tolerance cm3/1000s. : 16.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity

cm3/1000 strokes : 165.0 Tolerance

cm3/1000 strokes : ← 20.0

Check tolerance

cm3/1000s. : +- 25.0

LOW IDLE

Rated speed rpm : 475

Rack travel in mm: 5.50
Tolerance mm: + 0.10
Del. quantity

cm3/1000 strokes : 22.0

Tolerance

cm3/1000 strokes : + 2.0 Check tolerance

cm3/1000s. : +- 4.5 Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.03.98 Test oil : ISO 4113

Combination No. : 0 402 646 681

Injection pump

Pump designation : PE6P120A320RS7412 EP type number : 0 412 626 953

Governor

Governer design. : RQV275...1000PA1331K Governer no. : 0 421 815 561

Cust. part No. : 1349846/0

Customer—spec. information Customer : DAF Motor : XF 250 Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

torac arameter .

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Rack travel in mm: 11.50
Tolerance mm: + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance *NW : ← 0.75

Start of delivery mark

Tolerance :  $\leftarrow$  0.10

Check

tolerance *NW : + 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 11.50 Tolerance mm : + 0.10

roterance mm : - U.IC

Del. quantity cm3/1000 strokes

cm3/1000 strokes : 250.0

Tolerance

cm3/1000 strokes : + 1.0

M10

		† To
Check tolerance cm3/1000s.	: <b>←</b> 5.0	† Ra
CHO/ 10000.	5.0	T gu
Spreed		† tr
opi ceu		To
Tolerance		I
cm3/1000 strokes	: 8.0	1 _
CIRCY TOOC SET ONES	. 0.0	₹ en
Check tolerance		I
cm3/1000s.	: 13.0	Ra
CIID7 10000.	. 13.0	I
		T Ra
		+ To
Rated speed rpm	: 275	I
nated speed i pii	. 213	I _
Rack travel in m	m: 3.90	FU
Tolerance mm		I
Del. quantity	0.10	Ra
cm3/1000 strokes	: 17.0	- An
Tolerance	. 17.0	T hP
cm3/1000 strokes	• 🚣 🖪 0	T De
Check tolerance	5.0	+ cm
cm3/1000s.	: <del>←</del> 6.0	To To
Spreed	. + 0.0	- cm
Tolerance		+ Ch
cm3/1000 strokes	: 6.0	T cm
Check tolerance		+ Sp
	: 12.0	+ To
Check tolerance		+ To
Check tolerance cm3/1000s.	: 12.0	+ To + cm + Ch
Check tolerance cm3/1000s.  (B) SETTING OF I	: 12.0	+ To
Check tolerance cm3/1000s.	: 12.0	+ To + cm + Ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR	: 12.0 NJECTION PUMP	To cm
Check tolerance cm3/1000s.  (B) SETTING OF I	: 12.0 NJECTION PUMP	+ To + cm + Ch
Check tolerance cm3/1000s.  (B) SETTING OF INVITH GOVERNOR  GJIDE SLEEVE TRAY	: 12.0  NJECTION PUMP  VEL	To cm
Check tolerance cm3/1000s.  (B) SETTING OF INVITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm	: 12.0  NJECTION PUMP  VEL	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INVITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve	: 12.0  NJECTION PUMP  VEL  : 1055	to cm
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47	to cm
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm	: 12.0  NJECTION PUMP  VEL  : 1055	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47  : + 0.15	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47  : + 0.15	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAVERATED SLEEVE TRAVER TRAVEL mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Rated speed rpm guide sleeve	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275	To ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275  : 2.04	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INVITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Tolerance mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : ← 0.15  : 275  : 2.04 : ← 0.20	To cm CC CO po to RA
Check tolerance cm3/1000s.  (B) SETTING OF INVITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm  Rated speed rpm  Rated speed rpm  Rated speed rpm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : ← 0.15  : 275  : 2.04 : ← 0.20	To cm CC CO po to RA
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GUIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : ← 0.15  : 275  : 2.04 : ← 0.20 : 820	To cm CC CO po to RA
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GUIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Rated speed rpm guide sleeve travel mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : ← 0.15  : 275  : 2.04 : ← 0.20 : 820 : 5.14	To cm CC CO po to RA
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GUIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Rated speed rpm guide sleeve travel mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : ← 0.15  : 275  : 2.04 : ← 0.20 : 820	To cm CC CO po to RA
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Tolerance mm  Tolerance mm  Tolerance mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : ← 0.15  : 275  : 2.04 : ← 0.20 : 820 : 5.14 : ← 0.25	To cm CC CO po to RA
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : ← 0.15  : 275  : 2.04 : ← 0.20 : 820 : 5.14 : ← 0.25	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275  : 2.04 : + 0.20  : 820  : 820  : 5.14 : + 0.25  : 480	To cm Ch
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275  : 2.04 : + 0.20  : 820  : 5.14 : + 0.25  : 480  : 3.34	To cm CC CO po to RA
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Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm  guide sleeve travel mm  Tolerance mm  Rated speed rpm  Glerance mm  Rated speed rpm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275  : 2.04 : + 0.20  : 820  : 820  : 5.14 : + 0.25  : 480  : 3.34 : + 0.25	Tomchom — CC copto Rara Ra Toch sp ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch sp ra Ra Toch s
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275  : 2.04 : + 0.20  : 820  : 820  : 480  : 480  : 40.25  : 480  : 1282	To cm CC co po to RA Ra
Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GJIDE SLEEVE TRAY  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm guide sleeve travel mm  Tolerance mm  Rated speed rpm  guide sleeve travel mm  Tolerance mm  Rated speed rpm  Glerance mm  Rated speed rpm	: 12.0  NJECTION PUMP  VEL  : 1055  : 7.47 : + 0.15  : 275  : 2.04 : + 0.20  : 820  : 820  : 5.14 : + 0.25  : 480  : 3.34 : + 0.25	To cm CC CO po to RA

+ Tolerance mm : +- 0.25 ed speed rpm : 1370 ide sleeve vel mm : 13.50 : **←** 0.50 erance mm DE SLEEVE POSITION ed speed rpm : 1263 k travel in mm : 10.50 erance mm : + 1.30 L LOAD DELIVERY AT FULL LOAD STOP ed speed rpm : 980 roid pressure : 1500 . quantity 3/1000 strokes : 250.0 erance //1000 strokes : +-1.0 ck tolerance /1000s. : +-5.0 eed erance 3/1**000** strokes : 8.0 ck tolerance 7/10G0s. 13.0 TROL LEVER strol lever ition degree : 108.0 erance degree : +- 4.0 ED SPEED k travel mm : 10.50 ed speed rpm : 1045 : +- 5 erance 1/min eck ed 1/min : +- 10 : 4.00 k travel mm ed speed rpm 1125 erance 1/min : +- 15 ck ed 1/min 20 : +k travel mm : 0.70 : +- 0.70 .erance mm ed speed rpm : 1275

#### LOW IDLE

control lever position degree : 76.0 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 175

CRT mm min. : > 7.00

Testing:

Rated speed rpm : 275
rack travel mm : 3.90
Tolerance mm : + 0.10

Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 980 rack travel mm : 11.50 Tolerance mm : + 0.10

Rated speed rpm : 900 rack travel mm : 11.70 Tolerance mm : + 0.10

Rated speed rpm : 750 rack travel mm : 12.00 Tolerance mm : + 0.05

Rated speed rpm : 700 rack travel mm : 12.00 Tolerance mm : + 0.10

Rated speed rpm : 600 rack travel mm : 11.40 Tolerance mm : + 0.10

Rated speed rpm : 500 rack travel mm : 10.90 Tolerance mm : + 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 775
Pressure hPa : 1500
rack travel mm : 12.00
Tolerance mm : +- 0.05

Rated speed rpm : 775
Pressure hPa : 460
rack travel mm : 11.00
Tolerance mm : + 0.05

#### MEASUREMENT

Rated speed rpm : 775

Pressure hPa : rack travel mm : 8.30
Tolerance mm : + 0.20

Pressure hPa : 250 rack travel mm : 9.30 Tolerance mm : + 0.10

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa 1500 Rated speed rpm 750 rack travel mm 12,00 Tolerance mm : + 0.05 Del. quantity cm3/1000 strokes : 289.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s.6.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000s.15.0

Aneroid pressure hPa Rated speed rpm 600 Del. quantity cm3/1000 strokes : 188.0 Tolerance cm3/1000 strokes :  $\leftarrow$  1.0 Check tolerance cm3/1000s. 5.0 : +-Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000s.15.0

## LOW IDLE

Rated speed rpm	:		275	
			3.9C 0.10	
Del. quantity cm3/1000 strokes Tolerance	:		17.0	
cm3/1000 strokes Check tolerance	:	+-	3.0	
cm3/1000s. Spreed	:	+-	6.0	
Tolerance cm3/1000 strokes Check tolerance	:		6.0	
cm3/1000s.	:		12.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.03.98 Test oil : ISO 4113

Combination No. : 0 402 846 080

Injection pump

Pump designation : PE6P12OA32ORS8044 EP type number : 0 412 826 036

Governor

Governer design. : RQV300...1050FA1027K

Governer no. : 0 421 815 311

Cust. part No. : 11031995

: -PO2 V.03/97

Customer—spec. information Customer : VCE

Motor : TD122KHE Power KW : 209.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 150 Tolerance l/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.35 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Barrel no. : 1

		† Tolerance mm	: <b>+</b> 0.20
BASIC SETTING		Rated speed rpm	: 775
		+ guide sleeve	
Rated speed rpm	: 800	+ travel mm	: 6.42
	<del></del>	_	: + 0.25
Rack travel in mm	: 11.80	Rated speed rpm	: 470
Tolerance mm	: <del>+-</del> 0.05	- guide sleeve	
		_ + travel mma	: 3.79
Del. quantity		† Tolerance mm	: <del>+</del> 0.25
cm3/1000 strokes	: 231.0	†	
Talonana		+ Rated speed rpm	: 1570
Tolerance cm3/1000 strokes	10	+ guide sleeve + travel mm	: 13.50
CIBOT TOOL STrokes	. — 1.0	Tolerance mm	
Check tolerance		- I loterance man	. +- 0.50
cm3/1000s.	: +- 4.0		
		_	TION
Spreed			
•		+	
Tolerance		+ control lever	
cm3/1000 strokes	: 8.0	<pre>+ position degree</pre>	: - 1
-1 1	والمراجعة المراجعة المراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة	+ Rated speed rpm	: 1230
Check tolerance	. 44.0	†	0.40
cm3/1000s.	: 11.0	+ Rack travel in mm	
		+ Tolerance mm	: 4 2.50
		I	
Rated speed rpm	: 300	FULL LOAD DELIVER	RY AT FULL LOAD STOP
Rack travel in mm	3.70	Rated speed rpm	: 800
Tolerance mm		+ Aneroid pressure	. 000
Del. quantity		+ hPa	: 1500
cm3/1000 strokes	: 23.0	<pre>Del. quantity</pre>	
Tolerance		+ cm3/1000 strokes	: 231.0
cm3/1000 strokes	: <del>+</del> 3.0	+ Tolerance	
Check tolerance		+ cm3/1000 strokes	: +- 1.0
cm3/1000s.	: <del></del> 6.0	+ Check tolerance	
Spreed		cm3/1000s.	: +- 4.0
Tolerance cm3/1000 strokes	: 5.0	+ Spreed	
Check tolerance	: 5.0	Tolerance cm3/1000 strokes	
cm3/1000s.	: 8.0	+ Check tolerance	
(1107 1000)	. 0.0	- cm3/1000s.	: 11.0
		+	. ,,,,,
(B) SETTING OF IN	JECTION PUMP	+	
WITH GOVERNOR		+	
		+ CONTROL LEVER	
		†	
GUIDE SLEEVE TRAV	EL	+ control lever	(2.2
Dadad assault	. 1105	+ position degree	
Rated speed rpm	: 1105	tolerance degree	: +- 4.0
guide sleeve travel mm	: 9.77	control lever	
Tolerance man	: + 0.15	position degree	• 120 0
していていて 一番川		tolerance degree	
Rated speed rpm	: 300	1 total alive degree	• • •••
guide sleeve		+ RATED SPEED	
travel mm	: 2.01	rack travel mm	: 11.00
	- · · · · · · · · · · · · · · · · · · ·		

Rated speed rpm Tolerance 1/min	: 1085 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 1180
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : ← 0.50 : 1270
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : ← 4.0
control lever position degree tolerance degree	: 23.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm	: 200
CRT man min.	: > 6.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm	: 350
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 800 : 11.80 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.00 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 550 : 12.45 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 690 : 11.70 : ← 0.15
Rated speed rpm rack travel mm Tolerance mm	: 650 : 12.10 : ← 0.30

Rated speed rpm	: 550
rack travel mm	: 12.75
Tolerance mm	: + 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm	: 550
Pressure hPa	: 1500
rack travel mm	: 12.45
Tolerance mm	: + 0.10
Rated speed rpm	: 550
Pressure hPa	: -
rack travel mm	: 10.35
Tolerance mm	: +- 0.20
MEASUREMENT	
Rated speed rpm	: 550
Pressure hPa	: 600
rack travel mm	: 1.75
Tolerance mm	: + 0.20
Pressure hPa	: 260
rack travel mm	: 0.25
Tolerance mm	: + 0.05

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure			
hPa	:	1500	
Rated speed rpm	:	1050	
Del. quantity			
cm3/1000 strokes	:	221.0	
Tolerance	_	. 70	
cm3/1000 strokes Check tolerance	:	+- 3.0	
cm3/1000S.		+- 6.0	
Spreed	•	. 0.0	
Tolerance			
cm3/1000 strokes	:	10.0	
Check tolerance			
cm3/1000s.	:	14.0	
Aneroid pressure			

hPa : 1500
Rated speed rpm : 550
rack travel mm : 12.45
Tolerance mm : + 0.10

el. quantity m3/1000 strokes olerance	
m3/1000 strokes heck tolerance	: <del>←</del> 4.0
m3/1000s.	: +- 6.0
neroid pressure	
Pa ated speed rpm	: 550
el. quantity m3/1000 strokes	: 208.0
olerance m3/1000 strokes	: +- 1.0
heck tolerance m3/1000s.	: <b>←</b> 4.0
	7.0
TARTING FUEL DEL	IVERY
ated speed rpm	: 100
ack travel mm olerance mm	: 10.35 : + 0.30
olerance mm el. quantity	0.30
m3/1000 strokes	: 160.0
olerance	
m3/1000 strokes	: + 15.0
heck tolerance m3/1000s.	: <b>←</b> 19.0
OW IDLE	
ated speed rpm	: 300
ack travel in mm	: 3.70 : + 0.10
olerance mm el. quantity	· +- U.IU
m3/1000 strokes	: 23.0
olerance	
m3/1000 strokes heck tolerance	: +- 3.0
m3/1000s.	: +- 6.0
preed olerance	
m3/1000 strokes	: 5.0
heck tolerance	
m3/1000s.	: 8.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.02.98 : ISO 4113

Combination No. : 0 402 946 010

Injection pump

Pump designation : PES6P120A320RS8028

EP type number : 0 412 926 021

Governor

Governer no.

Governer design. : RQV275...1175PA1101K

: 0 421 815 982

Cust. part No. : CCEP 5133 A 66-193

Customer-spec. information

Customer : RENAULT V.I.

Motor

: MIDR 060226 M51

Power KW

: 158.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve

: 2 417 413 078

Inlet press. bar :

2.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

208.5

Tolerance bar

1.5

Test lines

: 1 680 750 089

Outside diameter :

8.0

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

x inside diameter :

x length mm :

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.00 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 13.00 : +- 0.50

Tolerance mm

3.0

600

Firing order

: 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 : + - 0.50

Tolerance

Check tolerance *NW

: + 0.75

Start of delivery mark

*NW after s.o.d. : -0.15

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

12.30 travel

Difference * CS : 2.00

CRT ZERO POSITION

Rack travel in mm Tolerance mm	: 13.70 : + 0.05		
BASIC SETTING			
Rated speed rpm	: 1175		
Del. quantity cm3/1000 strokes	: 268.0		
Tolerance cm3/1000 strokes	: + 1.0		
Check tolerance cm3/1000s.	: + 4.0		
Spreed			
Tolerance cm3/1000 strokes	: 5.0		
Check tolerance cm3/1000s.	: 9.0		
Rated speed rpm	: 275		
Rack travel in ma Tolerance ma Del. quantity	: -7.30 : + 0.10		
cm3/1000 strokes	: 42.0		
	: + 2.0		
cm3/1000s. Spreed	: <b>←</b> 6.0		
Tolerance cm3/1000 strokes	: 8.0		
Check tolerance cm3/1000S.	: 12.0		
(B) SETTING OF INJECTION PUMP WITH GOVERNOR			
GUIDE SLEEVE TRAV	EL		
Rated speed rpm guide sleeve	: 1230		
travel mm Tolerance mm	: 8.95 : + 0.10		
Rated speed rpm guide sleeve	: 275		
travel ma	: 1.01		

Tolerance mm	: +- 0.10
Rated speed rpm guide sleeve	: 877
travel mma Tolerance mma	: 6.51 : + 0.20
Rated speed rpm guide sleeve	: 389
travel mm Tolerance mm	: 2.39 : + 0.20
Rated speed rpm guide sleeve	: 439
travel mm Tolerance mm	: 3.01 : + 0.20
Rated speed rpm guide sleeve	: 550
travel mm Tolerance mm	: 3.92 : + 0.20
Rated speed rpm guide sleeve	: 1650
travel mm Tolerance mm	: 13.50 : + 0.50
GUIDE SLEEVE POSIT	TION
control lever	• - 1
position degree Rated speed rpm	1430
Rack travel in mm Tolerance mm	: 11.20 : + 2.00

# FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm 1175 Aneroid pressure 1600 hPa Del. quantity cm3/1000 strokes : 268.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0

CONTROL LEVER

	1		
control lever position degree tolerance degree	: 295.0 : ← 4.0	Rated speed rpm Pressure hPa	: 1175 : 1600
	+	Rated speed rpm	: 500
RATED SPEED	1	Pressure hPa	
rack travel mm	: -1.00	rack travel mm	: - : -5.40
Rated speed rom		Tolerance mm	
Rated speed rpm Tolerance 1/min	: + 15	TOTAL GLICE HAN	. , 0.20
rocerance triaint		MEASUREMENT	
rack travel mm	0 70	INEMOONE NEIGH	
		Dotod anord non	. 1175
Rated speed rpm	1450	Rated speed rpm	: 1175
Tolerance 1/min	: - 7	6.	700
	17.00	Pressure hPa	: 320
rack travel mm	: -13.20	rack travel mm	: -4.70
Tolerance mm	: + 0.55	Tolerance mm	: <del></del> 0.20
Rated speed rpm	: 1550 +		
	+	Pressure hPa rack travel mm Tolerance mm	: 560
	+	rack travel mm	: -2.95
	+	Tolerance mm	: <del>+-</del> 0.05
	<del></del>		
LOW IDLE	+	<del></del>	
	1	Start interlock	
control lever	1	Rated speed rpm	: > 175
position degree	· 245.0 ↓	Rated speed rpm	· < 24n
tolerance degree	· + 40	Mateca opeca i piii	240
toter drice degree	I	Check	
Setting maint u/	out bumper spring	speed 1/min	. \ 155
secting point wit	but pumper spring	Check	. > 100
Datad aneed non	: 200		: < 260
Rated speed rpm	: 200	speed 1/min	: < 260
CRT mm min.	: < -6.70	<del></del>	· · · · · · · · · · · · · · · · · · ·
	1	FUEL DELIVERY CHA	ARACTERISTICS
Testing:	1		
	1	·	
Rated speed rpm	: 275	Aneroid pressure	
rack traval mm		hPa	: 1600
rack travel mm Tolerance mm	: + 0.10 I	Rated speed rpm	
location in the	0.10		. 650
Datad aread are	. 400	Del. quantity	. 240.0
Rated speed rpm	· +••• †	cm3/1000 strokes	. 200.0
	†	Tolerance	
TODOUE ACCESS	<del></del>	cm3/1000 strokes	
TORQUE CONTROL	+	Check tolerance	
Rated speed rpm	: 1175 +	cm3/1000s.	: +- 6.0
	t +		
Rated speed rpm	: 650		
rack travel mm Tolerance mm	: -1.55	rack travel mm	: -2.80
Tolerance mm	: ← 0.10 +	Tolerance mm	: +- 0.25
	+		
Rated speed rpm	: 350		
rack travel mm	: -2.80 +	Aneroid-pressure	
	: ← 0.25	hPa	· -
Tolerance mm	· - 0.0	• • •	•
lolerance mm	I 0.8		500
Tolerance mm		Rated speed rpm	: 500
		Rated speed rpm Del. quantity	
ANEROID/ALTITUDE		Rated speed rpm Del. quantity cm3/1000 strokes	
		Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 148.0
ANEROID/ALTITUDE		Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 148.0
ANEROID/ALTITUDE COMPENSATOR TEST		Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 148.0 : +- 1.0
ANEROID/ALTITUDE		Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 148.0 : + 1.0

M20

# STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 95.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 14.0

# LOW IDLE

Rated speed rpm : 275

Rack travel in mm : -7.30Tolerance mm : +0.10

Del. quantity

cm3/1000 strokes : 42.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. : 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 04.03.98 : ISO 4113

Combination No. : 0 403 466 151AA

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer design. : RSV450...1100MW2A367

Governer no. : 0 420 085 250

Cust. part No. : 3926877

Customer-spec. information

Customer : CDC

Motor

: 6 CT

Power KW

: 138.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance *C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

Prestroke mm

2.80

Tolerance mm

: 2.80 : ← 0.05

Check

tolerence mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm

: + 1.50

Firing order : 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: **←** 0.50

Check

tolerance "NW :  $\leftarrow$  0.75

Start of delivery blocking

*NW after s.o.d. :

Tolerance :  $\leftarrow$  0.50

Check

8.00

tolerance *NW

: +- 0.75

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

travel : 15.00 Difference °CS : 2.00

M22

# BASIC SETTING Rated speed rpm : 1050 Rack travel in mm: 11.10 Tolerance mm : + 0.10Del. quantity cm3/1000 strokes : 130.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 7.5 cm3/1000s.Rated speed rpm : 450 Rack travel in mm: 5.15 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 25.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s.4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION control lever position degree

Rated speed rpm	: 1050
Aneroid pressure	
hPa	: 1200
Del. quantity	470.0
cm3/1000 strokes Tolerance	: 130.0
cm3/1000 strokes	: <del>←</del> 1.0
Check tolerance	. ' '
cm3/1000s.	: +- 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 4.0
Check tolerance	. 75
cm3/1000s.	: 7.5
CONTROL LEVER	
SOUTH FEATU	
control lever	
position degree	: 94.0
tolerance degree	: <del></del> 4.0
RATED SPEED	
rack travel mm	: 10.10
Rated speed rpm	: 1090
Tolerance 1/min	: +- 5
rack travel mm	: 6.40
Rated speed rpm	: 1175
Tolerance 1/min	: +- 15
mode democratic man	. 1.00
rack travel mm Tolerance mm	: 1.00 : +- 0.70
Rated speed rpm	: 1350
nated opeca i pili	. 1000
rack travel mm	: 6.40
Rated speed rpm	: 1175
Tolerance 1/min	: +- 15
LOW IDLE	
control lever	
position degree	: 78.0
talamanaa dagaaa	٠ ٨.٠

tolerance degree : +- 4.0

Setting point w/out bumper spring

16.0

4.0

Control lever difference

tolerance degree : +-

FULL LOAD DELIVERY AT FULL LOAD STOP

governor spring pre-tension

3.00 click setting x :

Rated speed rpm : 450 rack travel mm : 4.15 Tolerance mm : + 0.05  Testing:  Rated speed rpm : 450 rack travel mm : 5.15 Tolerance mm : + 0.05	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  rack travel mm : 11.15
TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 11.10 Tolerance mm : + 0.10  Rated speed rpm : 750 rack travel mm : 11.35 Tolerance mm : + 0.10  Rated speed rpm : 1000 rack travel mm : 11.15 Tolerance mm : 10.20	Tolerance mm : + 0.20  Aneroid pressure  hPa : -  Rated speed rpm : 500  Del. quantity  cm3/1000 strokes : 121.0  Tolerance  cm3/1000 strokes : + 1.0  Check tolerance  cm3/1000s. : + 3.0
ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 500 Pressure hPa : 1200  Rated speed rpm : 500 Pressure hPa : - rack travel mm : 10.50 Tolerance mm : + 0.20	STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 177.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0
MEASUREMENT  Rated speed rpm : 500  Pressure hPa : 550 rack travel mm : 10.90 Tolerance mm : + 0.20  FUEL DELIVERY CHARACTERISTICS	LOW IDLE  Rated speed rpm : 450  Rack travel in mm : 5.15  Tolerance mm : + 0.05  Del. quantity  cm3/1000 strokes : 25.5  Tolerance  cm3/1000 strokes : + 1.5
Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : + 2.0	Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 06.03.98 : ISO 4113

Test oil

Combination No. : F 000 409 004AB

Injection bump

Pump designation : PES6P120A720RS3256

EP type number

: 9 400 087 080

Governor

Governer design. : RQV350...1300PA1311

Governer no.

: F 000 420 106

Cust. part No. : 0270748502

Customer-spec. information Customer : MBB

Motor

: OM 366 LA

Power KW

: 139.8

### TEST BENCH REQUIREMENTS

Inlet line

: 4.1

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

: 208.5

Tolerance bar

: **←** 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.05 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -350

: + 0.50Tolerance

Check

tolerance  $^{\circ}NW$  : +- 0.75

# BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 10.70 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 136.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

Tolerance	+	
cm3/1000 strokes	5.0	control lever position degree : - 1
Check tolerance cm3/1000s.	: 9.0	Rated speed rpm : 1360
		Rack travel in mm : 16.50 Tolerance mm : + 1.30
Rated speed rpm	: 350	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm	: 7.50	FOLE COAD DELIVERY AT FULL EUAD STOP
Tolerance mm		Rated speed rpm : 1300
Del. quantity cm3/1000 strokes	. 17.0	Aneroid pressure hPa : 900
Tolerance	. 17.0	Del. quantity
cm3/1000 strokes Check tolerance	: + 3.0	cm3/1000 strokes : 136.0 Tolerance
cm3/1000s.	: + 6.0	cm3/1000 strokes : + 1.0
Spreed	+	Check tolerance
Tolerance cm3/1000 strokes	: 8.0	cm3/1000s. : +- 4.0 Spreed
Check tolerance	. 0.0	Tolerance
cm3/1000s.	: 12.0	cm3/1000 strokes : 5.0
	†	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INWITH GOVERNOR	JECTION PUMP	
GUIDE SLEEVE TRAV	Fi I	CONTROL LEVER
	+	control lever
Rated speed rpm	: 1100 +	position degree : 56.0
guide sleeve travel mm	: 6.45	tolerance degree : +- 6.0
Tolerance mm	: ← 0.25	control lever
	+	position degree : 113.0
Rated speed rpm guide sleeve	: 1350	tolerance degree : +- 6.0
travel mm	: 8.50	RATED SPEED
Tolerance mm		rack travel mm : 9.70
Ontrol amount man	. 750	Rated speed rpm : 1340
Rated speed rpm guide sleeve		Tolerance 1/min : +- 5
guide sleeve travel mm Tolerance mm	: 1.25	rack travel mm : 4.00
Tolerance mm	: + 0.25	Rated speed rpm : 1440
Rated speed rpm	: 650	Tolerance 1/min : +- 15
guide sleeve	. 415	rack travel mm : 0.50 Tolerance mm : +- 0.50
travel mm Tolerance mm	: + 0.25	Rated speed rpm : 1570
Rated speed rpm	: 1460	
travel mm	T-	
	: 9.55	
Tolerance mm	: 9.55 : + 0.25	LOW IDLE
Tolerance mm GUIDE SLEEVE POSI		control lever position degree : 80.0 tolerance degree : + 6.0

		+ Rated speed rpm	: < 270
control lever		†	
position degree		+ Check	
tolerance degree	: <del>-</del> 6.0	+ speed 1/min	: > 80
		+ Check	
Setting point w/c	out bumper spring	+ speed 1/min	: < 290
		+	
Rated speed rpm	: 100	+	
		+ FUEL DELIVERY CHA	NRACTERISTICS
CRT mm min.	: > 10.50	+	
_		+	<del></del>
Testing:		+ Aneroid pressure	
	<b>.</b>	† hPa	: 900
Rated speed rpm	: 350	+ Rated speed rpm	: 800
rack travel mm	: 7.50	+ Del. quantity	
Tolerance mm	: <b>←</b> 0.10	+ cm3/1000 strokes	: 115.5
		+ Tolerance	
Rated speed rpm	: 375	+ cm3/1000 strokes	: + 2.0
		+ Check tolerance	. 5.0
700017 0017001		+ cm3/1000s.	: +- 5.0
TORQUE CONTROL	4700	†	
Rated speed rpm	10.70	1	<del></del>
rack travel mm	: 10.70	+ Aneroid pressure	
Tolerance mm	: <b>←</b> 0.05	† hPa	. 500
Dodani amazul	. 900	+ Rated speed rpm	: 500
Rated speed rpm	: 800 : 10.70	+ Del. quantity	. /1.0
rack travel mm Tolerance mm	: 10.70	cm3/1000 strokes	: 41.0
locerance mm	: <b>←</b> 0.05	+ Tolerance	: +- 1.0
		+ cm3/1000 strokes	
AMERICA AL TITUDE		+ Check tolerance	
ANEROID/ALTITUDE COMPENSATOR TEST		+ cm3/1000s.	: +- 4.0
COMPENSATOR TEST		+ Spreed + Tolerance	
		+ cm3/1000 strokes	: 5.0
SETTING		+ Check tolerance	
OCT STIAM		+ cm3/1000s.	: 9.0
Rated speed rpm	: 500		. 7.0
Pressure hPa		1	
rack travel mm	10.70		
Tolerance mm		+ STARTING FUEL DEL	TVERY
TO ECT ON 150 HAD		+	
Rated speed rpm	: 500	+ Rated speed rpm	: 100
Pressure hPa	-	+ Del. quantity	, , <del>-4</del>
	-	+ cm3/1000 strokes	: 100.0
MEASUREMENT		+ Tolerance	
· ·		+ cm3/1000 strokes	: +- 10.0
Rated speed rpm	: 500	+ Check tolerance	
, ,		+ cm3/1000s.	: + 14.0
Pressure hPa	: 450	+	
rack travel mm	: 1.75	+	
Tolerance mm	: <b>←</b> 0.15	+	
_		+	<del></del>
Pressure hPa	: 200	+ LOW IDLE	
rack travel mm	: 0.70	†	-
Tolerance mm	: <b>←</b> 0.10	+ Rated speed rpm	: 350
		†	7 50
		+ Rack travel in mm	
Start interlock		+ Tolerance mm	: +- 0.10
D.A. I	400	+ Del. quantity	. 47.0
Rated speed rpm	: > 100	+ cm3/1000 strokes	: 17.0
MOO			
M28			

†

Rated speed rpm : < 270

Tolerance cm3/1000 strokes :  $\leftarrow$  3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.

12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 06.03.98 : ISO 4113

Combination No. : F 000 409 007

Injection pump

Pump designation : PES6P110A720RS3389

EP type number

: F 000 400 002

**Governor** 

Governer design. : RQV300...1300PA1343K

Governer no.

: F 000 420 500

Cust. part No. : 0280743002

Customer-spec. information : MBB

Customer

Motor

: OM356LA-EURO II

Power KW

: 150.0

# TEST BENCH REQUIREMENTS

Inlet line

: 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: **←** 2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

2.3

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

Test lines : 1 680 750 015

Outside diameter :

6.0

NO2

x inside diameter : 3.0 x length mm :

600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +-1.0

Prestroke mm 4.30

Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 21.00

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 14.30

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 122.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed

		•	
Tolerance		Aneroid pressure	
cm3/1000 strokes	: 4.0	hPa : 1000	
	<del></del>	Del. quantity	
Check tolerance		cm3/1000 strokes : 122.0	
cm3/1000s.	: 7.5	Tolerance	
		cm3/1000 strokes : + 1.0	
	•	- Check tolerance	
		+ cm3/1000s. : +- 4.0	
Rated speed rpm	: 300	+ Spreed	
		Tolerance	
Rack travel in mm		+ cm3/1000 strokes : 4.0	
Tolerance ma	: +- 0.20	+ Check tolerance	
Del. quantity	47.0	+ cm3/1000s. : 7.5	
cm3/1000 strokes	: 13.0	†	
Tolerance		†	
cm3/1000 strakes	: + 2.5		
Check tolerance		+ CONTROL LEVER	
cm3/1000s.	: <del>←</del> 5.0	†	
Spreed	•	+ control lever	
Tolerance	, <del>-</del>	position degree : 109.0	
cm3/1000 strokes	: 4.5	tolerance degree : +- 4.0	
Check tolerance		t	
cm3/1900S.	: 7.5	+ RATED SPEED	
	•	rack travel mm : 13.30	
	•	Rated speed rpm : 1350	
(B) SETTING OF IN	WECTION PUMP	Tolerance 1/min : + 5	
WITH GOVERNOR	•	+	
	•	f rack travel mm : 4.00	
	<del></del>	Rated speed rpm : 1515	
GUIDE SLEEVE TRAV	ÆL -	Tolerance 1/min : + 15	
	_	+	
<b>~</b>	4750		
Rated speed rpm	: 1350	rack travel mm : 0.50	
guide sleeve	•	Tolerance mm : +- 0.50	
guide sleeve travel mm	. 8.50	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1700	
guide sleeve	•	Tolerance mm : +- 0.50	
guide sleeve travel mm Tolerance mm	: 8.50 : + 0.10	Tolerance mm : +- 0.50	
guide sleeve travel mma Tolerance mma Rated speed rpm	: 8.50 : + 0.10	Tolerance mm : +- 0.50	
guide sleeve travel mma Tolerance mma Rated speed rpma guide sleeve	: 8.50 : ← 0.10 : 300	Tolerance mm : +- 0.50 Rated speed rpm : 1700	
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: 8.50 : ← 0.10 : 300 : 1.05	Tolerance mm : +- 0.50	
guide sleeve travel mma Tolerance mma Rated speed rpma guide sleeve	: 8.50 : ← 0.10 : 300 : 1.05	Tolerance mm : +- 0.50 Rated speed rpm : 1700	
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>÷ 0.10</li> <li>: 300</li> <li>: 1.05</li> <li>: ÷ 0.25</li> </ul>	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE	
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> </ul>	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE  control lever	
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> </ul>	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE  control lever	
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> </ul>	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE	
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> </ul>	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0	nc
guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	<ul> <li>8.50</li> <li>. ← 0.10</li> <li>. 300</li> <li>. 1.05</li> <li>. ← 0.25</li> <li>. 500</li> <li>. 3.05</li> <li>. ← 0.25</li> </ul>	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE  control lever	ng
guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm Rated speed rpm	8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0  Setting point w/out bumper spri	ng
guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm Rated speed rpm	8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0	ng
guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm Rated speed rpm	8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : +- 4.0  Setting point w/out bumper spri  Rated speed rpm : 200	ng
guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0  Setting point w/out bumper spri	ng
guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Tolerance mm  Tolerance mm	8.50 : + 0.10 : 300 : 1.05 : + 0.25 : 500 : 3.05 : + 0.25 : 700 : 4.35 : + 0.25	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : +- 4.0  Setting point w/out bumper spri  Rated speed rpm : 200  CRT mm min. :> 6.00	ng
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> <li>3.05</li> <li>+ 0.25</li> <li>700</li> <li>4.35</li> <li>+ 0.25</li> <li>1780</li> </ul>	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : +- 4.0  Setting point w/out bumper spri  Rated speed rpm : 200	ng
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> <li>3.05</li> <li>+ 0.25</li> <li>700</li> <li>4.35</li> <li>+ 0.25</li> <li>1780</li> </ul>	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0  Setting point w/out bumper spri Rated speed rpm : 200  CRT mm min. :> 6.00  Testing:	ng
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> <li>3.05</li> <li>+ 0.25</li> <li>700</li> <li>4.35</li> <li>+ 0.25</li> <li>1780</li> </ul>	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0  Setting point w/out bumper spri Rated speed rpm : 200  CRT mm min. :> 6.00  Testing:	ng
guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> <li>3.05</li> <li>+ 0.25</li> <li>700</li> <li>4.35</li> <li>+ 0.25</li> <li>1780</li> </ul>	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0  Setting point w/out bumper spri Rated speed rpm : 200  CRT mm min. :> 6.00  Testing:	ng
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> <li>3.05</li> <li>+ 0.25</li> <li>700</li> <li>4.35</li> <li>+ 0.25</li> <li>1780</li> </ul>	Tolerance mm : +- 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : +- 4.0  Setting point w/out bumper spri  Rated speed rpm : 200  CRT mm min. :> 6.00	ng
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	<ul> <li>8.50</li> <li>+ 0.10</li> <li>300</li> <li>1.05</li> <li>+ 0.25</li> <li>500</li> <li>3.05</li> <li>+ 0.25</li> <li>700</li> <li>4.35</li> <li>+ 0.25</li> <li>1780</li> </ul>	Tolerance mm : + 0.50 Rated speed rpm : 1700  LOW IDLE  control lever position degree : 64.0 tolerance degree : + 4.0  Setting point w/out bumper spri Rated speed rpm : 200  CRT mm min. :> 6.00  Testing:	ng

Rated speed rpm : 1300

TODOLIC CONTROL		+ FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL Rated speed rpm	: 1300	T FUEL DELIVERY CHARACTERISTICS
rack travel mm	: 1300 : 14.30	I
Tolerance mm	: +- 0.05	Aneroid pressure
TOCET CRIFIC IMM	0.03	hPa : 1000
Rated speed rpm	: 600	Rated speed rpm : 600
rack travel mm	: 12.90	+ Del. quantity
Tolerance mm	: + 0.10	+ cm3/1000 strokes : 96.0
		Tolerance
Rated speed rpm	: 1000	+ cm3/1000 strokes : + 2.0
rack travel mm		+ Check tolerance
Tolerance mm		+ cm3/1000s. : +- 5.0
		+
Rated speed rpm	: 800	
rack travel mm	: 13.25	+ Aneroid pressure
Tolerance mm	: <b>←</b> 0.10	+ hPa : 1000
		Rated speed rpm : 1000
Rated speed rpm	: 700	rack travel mm : 13.85
rack travel mm		+ Tolerance mm : +- 0.05
Tolerance mm	: ← 0.10	+ Del. quantity
		+ cm3/1000 strokes : 108.0
		† Tolerance
ANEROID/ALTITUDE		+ cm3/1000 strokes : +- 2.0
COMPENSATOR TEST		+ Check tolerance
		+ cm3/1000s. : + 5.0
		+
SETTING		+
		+ Aneroid pressure
Rated speed rpm	: 500	+ hPa : 1000
Pressure hPa	: 1000	Rated speed rpm : 800
rack travel mm	: 12.90	+ Del. quantity
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : 99.5
		† Tolerance
Rated speed rpm	: 500	+ cm3/1000 strokes : +- 2.0
Pressure hPa	: -	+ Check tolerance
		+ cm3/1000s. : + 5.0
MEASUREMENT		+
		<u> </u>
Rated speed rpm	: 500	+ Aneroid pressure
	450	+ hPa : 1000
Pressure hPa	: 150	Rated speed rpm : 700
rack travel mm	: 0.90	+ Del. quantity
Tolerance mm	: <del>+-</del> 0.05	+ cm3/1000 strokes : 97.0
Dans	. /50	- Tolerance - cm3/1000 strokes : +- 2.0
Pressure hPa	: 450	+ Check tolerance
rack travel mm	: 3.40 : +- 0.10	7.40000
Tolerance mm	: 0.10	+ cm3/1000s. , : + 5.0
		I
Start interlock		Aneroid pressure
Start HitchCOCK		hPa : -
Rated speed rpm	: > 100	Rated speed rpm : 500
Rated speed rpm		+ Del. quantity
hateu speeu ipii	100	+ cm3/1000 strokes : 44.5
Check		Tolerance
speed 1/min	: > 80	cm3/1000 strokes : +- 1.0
Check	00	Check tolerance
speed 1/min	: < 220	+ cm3/1000s. : +- 4.0
SPECU LYMILL		1 01107 100001

NO4

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 7.5

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 15.00 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 136.5

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : + 14.0

# LOW IDLE

Rated speed rpm : 300

Rack travel in mm : 5.50 Tolerance mm : + 0.20

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : + 2.5

Check tolerance

cm3/1000s. : + 5.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

cm3/1000s. : 7.5

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07.01.98 Edition : ISO 4113 Test oil

Combination No. : F 000 409 203

Injection pump

Pump designation : PES6A100D320/3R\$2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A2C969R

6overner no. : F 000 420 702

Cust. part No. : 3353232

Customer-spec. information Customer : CUMMINS Motor : 6 CT : 120.0 Power KW

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : +-: + 0.05

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery blocking

*NW after s.o.d. : 10.00 : +- 0.10 Tolerance

Check

tolerance *NW

: +- 0.23

Barrel no. : 1

Beginning of delivery differende

and maximum rack

Tolerance mm : + 1 50 Tolerance mm : + 1.50 Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 1100	
Rack travel in mm: 12.25 Tolerance mm: : + 0.05	FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1100  Aneroid pressure
Del. quantity cm3/1000 strokes : 118.0	hPa : - Del. quantity cm3/1000 strokes : 118.0
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000s. : + 3.0 Spreed Tolerance
Spreed	cm3/1000 strokes : 3.5 Check tolerance
Tolerance	cm3/1000s. : 8.0
Check tolerance cm3/1000s. : 8.0	CONTROL LEVER
Rated speed rpm : 450	control lever position degree : 90.0 tolerance degree : +- 4.0
+	_
Rack travel in mm: 5.10 + Tolerance mm: :+- 0.10 +	RATED SPEED
Tolerance mm : +- 0.10 + Del. quantity +	rack travel mm : 11.30 Rated speed rpm : 1150
cm3/1000 strokes : 12.5	Tolerance 1/min : + 5
Tolerance	
cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance + cm3/1000s. : + 4.5	Rated speed rpm : 1225 Tolerance 1/min : +- 15
Spreed 4.3	Totel drice 17 million : +- 15
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 5.5	Tolerance mm : + 0.55
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1350
cm3/10005. : 9.5	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
<u> </u>	control lever
GUIDE SLEEVE POSITION	position degree : 67.0
‡	tolerance degree : + 4.0
control lever position degree : - 3	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 450
Rack travel in mm : 0.50	rack travel mm : 4.60 Tolerance mm : +- 0.10
Tolerance mm : + 0.20	TOLET GIVE THE . TO U. TU
+	Rated speed rpm : 100
governor spring + pre-tension +	CRT mm min. : > 19.00
click setting x : 2.50	CITE THEM INTELLS . F 17.000

# Testing:

Rated speed rpm : 450 rack travel mm : 5.10 Tolerance mm : + 0.10

rack travel mm : 2.00 Rated speed rpm : 600 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 12.25 Tolerance mm : + 0.05

Rated speed rpm : 500 rack travel mm : 12.30 Tolerance mm : + 0.10

Rated speed rpm : 400 rack travel mm : 12.85 Tolerance mm : + 0.25

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Del. quantity

cm3/1000 strokes : 142.0

Tolerance

cm3/1000 strokes : + 8.0

Check tolerance

cm3/1000s. : + 11.0

# LOW IDLE

Rated speed rpm : 450

Rack travel in mm : 5.10
Tolerance mm : + 0.10
Del. quantity

cm3/1000 strokes : 12.5

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : + 4.5

Spreed Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s.

: 9.0

End of test specification sheet

**80**M

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.03.98 : ISO 4113

Combination No. : F 000 409 211

Injection pump

Pump designation : PES6A100D320/3RS2691

EP type number : 9 410 230 025

Governor

Governer design. : RSV400...1100A2C972R

Governer no. : F 000 420 705

Cust. part No. : 3352893

Customer-spec. information Customer : CUMMINS

Motor

: 6 CT

Power KW

: 120.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length man : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85

: + 0.05 Tolerance mm

Check

tolerance mm : **←** 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.50 Tolerance

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 11.00

: + 0.10 Tolerance

Check

tolerance *NW : + 0.23

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

: 10.50 travel

Tolerance mm : +- 1.50 Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm	1100 +		
Rack travel in mm : Tolerance mm :	: 10.25 : + 0.05	FULL LOAD DELIVER' Rated speed rpm Aneroid pressure	Y AT FULL LOAD STOP : 1100
Del. quantity cm3/1000 strokes	88.5	hPa Del. quantity cm3/1000 strokes	: - : 88.5
Tolerance cm3/1000 strokes	: + 1.0	Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	: + 3.0	Check tolerance cm3/1000s. Spreed	: +- 3.0
Spreed		Tolerance cm3/1000 strokes Check tolerance	: 3.5
Tolerance cm3/1000 strokes	: 3.5	cm3/1000s.	: 8.0
Check tolerance cm3/1000s.	8.0	CONTROL LEVER	
Rated speed rpm	400	control lever position degree tolerance degree	
•	+	toterance degree	; <del>-</del> 4.0
Rack travel in mm		RATED SPEED	A A.
Tolerance mm : Del. quantity	; ← 0.10 ±	rack travel mm	: 9.20 : 1145
cm3/1000 strokes	: 16.0	Rated speed rpm Tolerance 1/min	; + 5
Tolerance	10.0	rocerance mann	
	: +- 2.0	rack travel mm	: 4.00
Check tolerance	<b>-</b>	Rated speed rpm	
cm3/1000s. Spreed	÷ 4.5	Tolerance 1/min	; <del>+-</del> 15
Tolerance	<u> </u>	rack travel mm	: 0.85
cm3/1000 strokes	5.5	Tolerance mm	: + 0.55
Check tolerance	+	Rated speed rpm	: 1350
cm3/1000s.	9.0		
(B) SETTING OF INJE	ECTION PUMP +		
WITH GOVERNOR	‡	LOW IDLE	
GUIDE SLEEVE POSITI	ION	control lever position degree tolerance degree	
control lever	+	Setting point w/o	ut bumper spring
position degree : Rated speed rpm :		Rated speed rpm	: 400
Rack travel in mm :	0.65	rack travel mm Tolerance mm	: 5.10 : +- 0.10
Tolerance mm		Rated speed rpm	
governor spring	Ŧ		
pre-tension click setting x	2.50	CRT mm min.	: > 19.00

# Testing:

Rated speed rpm rack travel mm Tolerance mm	: +-	400 5.60 0.10

rack travel mm	:	2.00
Rated speed rpm	:	595
Tolerance 1/min	; +	- 30

TORQUE CONTROL		
Rated speed rpm	:	1100
rack travel mm	:	10.25
Tolerance mm	: -	← 0.05

Rated speed rpm	:	500
rack travel mm	:	12.20
Tolerance mm	: +	- 0.10

Rated speed rpm	:	750
rack travel mm	:	12.20
Tolerance mm	: +	- G.10

Rated speed rpm	:	950
rack travel mm	:	11.40
Tolerance mm	; +	- 0.10

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	_
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	103.0
Tolerance		

cm3/1000 strokes : +- 2.0 Check tolerance

Check tolerance cm3/1000s. : +- 4.0

Aneroid pressure			
hPa	:		-
Rated speed rpm	:		750
rack travel mm	:		12.20
Tolerance mm	:	+-	0.10
Del. quantity			
cm3/1000 strokes	:		116.0
Tolerance			
cm3/1000 strokes	:	+-	2.0
Check tolerance			

Check tolerance cm3/1000s. : +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm	:		100
rack travel mma Tolerance mma	:	+-	20.00
Del. quantity	•	·	1.00
cm3/1000 strokes	:		142.0
Tolerance			0.0
cm3/1000 strokes Check tolerance	:	+-	8.0
cm3/1000s.	:	+	11.0

# LOW IDLE

Rated speed rpm	:	<b>400</b>
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +-	5.60 0.10 16.0 2.0 4.5
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	:	5.5 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26.02.98 : ISO 4113

Combination No.

: 0 402 034 702

Injection pump

Pump designation : PES4P120B120RS3379 .

EP type number : 0 412 024 702

Governor

Governer design. : RQV475...1250PA1380K

Governer no.

: 0 421 815 560

Cust. part No. : 3933367

Customer-spec. information

Customer

: CDC

Motor

: 4BTA-A

Power KW

: 82.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar

: +- 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

: 208.5

Tolerance bar

: **←** 1.5

Test lines

: 1 680 750 015

Outside diameter : 6.0

N12

x inside diameter :

3.0

x length mma :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm 3.60

: **←** 0.05 Tolerance mm

Check

: <del>←</del> 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-3-4-2

: 0-90-100-270 Phasing

Tolerance : +- 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.00

Tolerance

: +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.15

Tolerance mm

: +- 0.05

Del. quantity cm3/1000 strokes : 118.5	† Tolerance mm : + 0.25
Tolerance	
cm3/1000 strokes : + 1.0	+ travel mm : 13.50 + Tolerance mm : + 0.50
Check tolerance cm3/1000s. : + 4.0	
Spreed	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance	Rated speed rpm : 1250 Aneroid pressure
cm3/1000 strokes : 8.0	hPa : 350 Del. quantity
Check tolerance cm3/1000S. : 12.0	cm3/1000 strokes : 118.5 Tolerance
	+ cm3/1000 strokes : ← 1.0 - Check tolerance
Rated speed rpm : 475	+ cm3/1000s. : + 4.0 + Spreed
	Tolerance
Rack travel in mm: 5.50	+ cm3/1000 strokes : 8.0
Tolerance mm : +~ 0.10	+ Check tolerance
Del. quantity	+ cm3/1000s. : 12.0
cm3/1000 strokes : 26.5	†
Tolerance cm3/1000 strokes : + 3.0	†
Check tolerance	CONTROL LEVER
cm3/1000s. : + 5.0	T CONTROL SEVER
Spreed	T control lever
Tolerance	position degree : 117.0
cm3/1000 strokes : 4.0	tolerance degree : +- 4.0
Check tolerance	total alice degree
cm3/1000s. : 8.0	RATED SPEED
	rack travel mm : 9.10
	Rated speed rpm : 1315
(B) SETTING OF INJECTION PUMP	+ Tolerance 1/min : + 15
WITH GOVERNOR	
	rack travel mm : 4.00
	- + Rated speed rpm : 1400
GUIDE SLEEVE TRAVEL	→ Tolerance 1/min : + 5
	+
Rated speed rpm : 1312	rack travel mm : 0.50
guide sleeve	Tolerance mm : + 0.50
travel mm : 9.56	Rated speed rpm : 1500
Tolerance mm : + 0.15	†
Rated speed rpm : 475	Ī
Rated speed rpm : 475 quide sleeve	I
travel mm : 1.75	LOW IDLE
Tolerance mm : +- 0.20	1
TO COT ON THE STATE OF CO.	1
Rated speed rpm : 993	control lever
guide sleeve	position degree : 73.0
travel mm : 6.53	tolerance degree : + 4.0
Tolerance mm : + 0.25	+
	+ Control lever difference
Rated speed rpm : 680	+ Grad : 44.0
guide sleeve	tolerance degree : +- 6.0
travel mm : 3.84	+

Setting point w/o	out bumper spring	† Check	
Rated speed rpm	: 400	speed 1/min Check	: > 80
CRT mm min.	: > 6.80	speed 1/min	: < 405
Testing:		FUEL DELIVERY CH	ADACTESTOTICS
Rated speed rpm	: 475	T FOEL DELIVERY CON	ARACIERISTICS
rack travel mm Tolerance mm	: 5.50	†	
Tolerance mm	: +- 0.10	+ Aneroid pressure	
Section of the second sections		hPa Rated speed rpm	: 350
Rated speed rpm	: 550	Rated speed rpm	: 750
		Del. quantity —— + cm3/1000 strokes	. 440 5
TARRIE GENTRAL			: 170.5
TORQUE CONTROL	. 4250	Tolerance	7.0
Rated speed rpm	: 1250	+ cm3/1000 strokes	
rack travel mm	: 10.15	+ Check tolerance	
Tolerance mm	: + 0.05	+ cm3/1000s.	: +- 6.0
naa l	. <b>7</b> CA	+ Spreed	
Rated speed rpm	: /50	+ Tolerance	2.2
rack travel mm	: 9.75	+ cm3/1000 strokes	
Tolerance mm	: ← 0.10	+ Check tolerance	
		+ cm3/1000s.	: 12.0
Rated speed rpm	: 550	<del></del>	
rack travel mm Tolerance mm	: 9.45	+	
Tolerance mm	: <b>←</b> 0.20	+ rack travel mm	: 9.45
		† Tolerance mm	: ← 0.20
	<del></del>	<del> </del>	
ANEROID/ALTITUDE		+	<del></del>
COMPENSATOR TEST		+ Aneroid pressure	
		+ hPa	: -
		+ Rated speed rpm	: 1250
SETTING		- Del. quantity	
		t Del. quantity cm3/1000 strokes	: 103.0
Rated speed rpm Pressure hPa	: 1250	+ Tolerance	
Pressure hPa	: 350	+ cm3/1000 strokes	: +- 1.0
		+ Check tolerance	
Rated speed rpm	: 1250	→ cm3/1000s.	; <del></del>
Pressure hPa	: -	+	
rack travel mm	: 9.00	+	
Tolerance mm	: <del>-</del> 0.20	+	
		+ STARTING FUEL DE	LIVERY
MEASUREMENT		+	
		+ Rated speed rpm	: 100
Rated speed rpm	: 1250	+ rack travel mm	
• • • • • • • • • • • • • • • • • • • •		+ Tolerance mm	
Pressure hPa	: 265	+ Del. quantity	
rack travel mm	9.80	+ cm3/1000 strokes	: 176.0
Tolerance mm	: +- 0.15	+ Tolerance	
		+ cm3/1000 strokes	: <del>+</del> 20.0
Pressure hPa	: 200	+ Check tolerance	
rack travel mm	9,40	+ cm3/1000s.	: <del>+-</del> 25.0
Tolerance mm	: +- 0.15	+	
		+	
		<del></del>	
Start interlock		LOUITOUT	
Dakad =======	. \ 400	+ LOW IDLE	
Rated speed rpm		<b>T</b> 0-4-44	. /75
Rated speed rpm	: < 395	+ Rated speed rpm	: 475

N14

Rack travel in mm Tolerance mm	: : +-	5.50 <b>0.</b> 10
Del. quantity cm3/1000 strokes Tolerance	:	26.5
cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s. Spreed	: +-	5.0
Tolerance cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 05.03.98 Test oil : ISO 4113

Combination No. : 0 402 066 707AA

Injection pump

Pump designation : PES6P120A120RS3358 .

EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100P2A618

Governer no.

: 0 421 833 513

Cust. part No. : 3934856

Customer-spec. information

Customer : CDC

: 6BTA ELITE Motor

Power KW

: 136.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 2 417 413 093

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x Length mm :

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar :+ 1.0

Prestroke mm Tolerance mm : 2.85

: +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.50 Tolerance

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery blocking

*NW after s.o.d. : 6.75

Tolerance

Check

: +- 0.50

tolerance *NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.35

Tolerance mm :  $\leftarrow$  0.05

N16

+	Aneroid pressure
Del. quantity	hPa : 1200
cm3/1000 strokes : 146.5	Del. quantity
Tolerance	cm3/1000 strokes : 146.5 Tolerance
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : +- 1.0
	Check tolerance
Check tolerance	$cm3/1000s$ . : $\leftarrow$ 3.0
$cm3/1000s.$ : $\leftarrow$ 3.0	Spreed
Spreed	Tolerance cm3/1000 strokes : 4.0
Spi eed T	Check tolerance
Tolerance	cm3/1000s. : 7.5
cm3/1000 strokes : 4.0	
+	
Check tolerance + cm3/1000s. : 7.5	CONTROL LEVED
	CONTROL LEVER
	control lever
+	position degree : 103.0
Rated speed rpm : 475	tolerance degree : + 4.0
	restate and
Rack travel in mm: 5.40 + Tolerance mm: + 0.10 +	RATED SPEED rack travel mm : 10.30
Del. quantity	Rated speed rpm : 1175
cm3/1000 strokes : 24.5	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : + 2.0 +	rack travel mm : 4.00
Check tolerance	Rated speed rpm : 1230
cm3/1000s. : + 4.5 + 5	rack travel mm : 0.85
Tolerance +	Tolerance mm : +- 0.55
cm3/1000 strokes : 6.0	Rated speed rpm : 1375
Check tolerance	
cm3/1000s. : 9.0 +	
+	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	EOW IDEE
AZIII GOVENION	
+	control lever
	position degree : 81.0
GUIDE SLEEVE POSITION +	Control lever difference
Ĭ	Grad : 22.0
control Lever	tolerance degree : +- 6.0
position degree : - 3	
Rated speed rpm : 800 +	Setting point w/out bumper spring
Rack travel in mm: 0.50	Rated speed rpm : 475
Tolerance mm : + 0.20	Rated speed rpm : 475 rack travel mm : 4.90
3	Tolerance mm : +- 0.05
governor spring	
pre-tension +	Rated speed rpm : 100
click setting $x$ : 3.75	CDT
	CRT mm min. : > 19.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
TOLL COND DECEMENT AT TOLL COND DIVI	, 556 mg,
Rated speed rpm : 1100	Rated speed rpm : 475
· · ·	

N17

TORQUE CONTROL

Rated speed rpm : 1100 rack travel mm : 11.35 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500 Pressure hPa : 1200

Rated speed rpm : 500
Pressure hPa : rack travel mm : 9.20
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 800 rack travel mm : 10.70 Tolerance mm : + 0.20

Pressure hPa : 545
rack travel mm : 9.75
Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 100.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50

Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  20.0

Check tolerance

cm3/1000s. :  $\leftarrow$  25.0

LOW IDLE

Reted speed rpm : 475

Rack travel in mm: 5.40
Tolerance mm: + 0.10
Del. quantity
cm3/1000 strokes: 24.5
Tolerance
cm3/1000 strokes: + 2.0

Check tolerance cm3/1000S. : + 4.5

Spreed Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 9.0

# Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.02.98 Test oil : ISO 4113

Combination No. : 0 402 066 709AA

Injection pump

Pump designation : PES6P12DA12DR\$3358 : EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1100P0A632

Governer no. : 0 421 833 539

Cust. part No. : 3934128

Customer-spec. information

Customer : CDC

Motor : 6BTA ELITE

Power KW : 130.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check

tolerance mm

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: **←** 0.10

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 6.75 Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.20
Tolerance mm : + 0.05

Del. quantity + cm3/1000 strokes : 138.5 +	Aneroid pressure hPa : 1500
Tolerance + 1.0 +	Del. quantity cm3/1000 strokes : 138.5 Tolerance
Check tolerance cm3/1000s. : + 3.0	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 3.0
Spreed Spreed	cm3/1000s. : +- 3.0 Spreed Tolerance
Tolerance +	cm3/1000 strokes : 4.0 Check tolerance
cm3/1000 strokes : 4.0	cm3/1000s. : 7.5
Check tolerance cm3/1000s. : 7.5	CONTROL LEVER
	control lever
Rated speed rpm : 475	position degree : 93.0 tolerance degree : + 4.0
Rack travel in mm: 5.40 + Tolerance mm : + 0.20 +	RATED SPEED
Del. quantity	rack travel mm : 10.20
cm3/1000 strokes : 24.5 + Tolerance +	Rated speed rpm : 1145 Tolerance 1/min : +- 5
cm3/1000 strokes : + 2.0	
Check tolerance + cm3/1000s. : + 4.5	rack travel mm : 5.70 Rated speed rpm : 1230
Spreed +	Tolerance 1/min : +- 5
cm3/1000 strokes : 6.0	rack travel mm : 0.85
Check tolerance + cm3/1000s. : 9.0 +	Tolerance mm : + 0.55 Rated speed rpm : 1400
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
‡	LOW IDLE
GUIDE SLEEVE POSITION +	control lever
‡	position degree : 78.0 tolerance degree : + 4.0
control lever	_
position degree : -3 + Rated speed rpm : 800 +	Control lever difference Grad : 15.0
Rack travel in mm: 0.50	tolerance degree : + 6.0
Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring + + + + + + + + + + + + + + + + + + +	Rated speed rpm : 475 rack travel mm : 4.90
click setting x : 4.25	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
+	CRT mm min. : < 19.00
Rated speed rpm : 1100	Testing:

Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.40 : + 0.20
TORQUE CONTROL Rated speed rpm rack travel mm Tolerance mm	: 11.20 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.00 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1500
Rated speed rpm Pressure hPa	
rack travel mm	: - : 9.30 : + 0.20
Tolerance mm MEASUREMENT	: + 0.20
	: 500
Pressure hPa	: 975
rack travel mm Tolerance mm	: 11.50 : + 0.20
Pressure hPa	: 545
rack travel mm Tolerance mm	9.85 + 0.20
FUEL DELIVERY CHARACTERISTICS	
Aneroid pressure hPa Rated speed rpm	: 1500 : 750
Del. quantity cm3/1000 strokes Tolerance	: 170.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes	: 8.0

Check tolerance cm3/1000S.	: 12.0	)
Aneroid pressure		
Rated speed rpm	500	
Del. quantity cm3/1000 strokes	: 100.5	
Tolerance cm3/1000 strokes	; + 2,0	1
Check tolerance		
cm3/1000s.	: +- 4.{	)
STARTING FUEL DEL	IVERY	
Rated speed rpm	: 100	
rack travel mm Tolerance mm	: 21.00 : + 0.50	)
Del. quantity		
cm3/1000 strokes Tolerance	: 165.0	)
cm3/1000 strokes	: <b>←</b> 20.0	)
Check tolerance cm3/1000s.	: +- 25.0	1
LOW IDLE	<del></del>	
Rated speed rpm	: 475	
Rack travel in mm		
Tolerance mm Del. quantity	: + 0.20	J
cm3/1000 strokes	: 24.5	5
Tolerance cm3/1000 strokes	: +- 2.0	)
Check tolerance cm3/1000s.	: +- 4.5	
Spreed	; <del>**</del> 4.3	•
Tolerance cm3/1000 strokes	: 6.0	<b>,</b>
Check tolerance	: 6.0	)
cm3/1000s.	: 9.0	)
End of test specification sheet		

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05,03,98 : ISO 4113

Combination No. : 0 402 734 801

Injection pump

Pump designation : PES4P12OA12ORS7313

EP type number : 0 412 724 801

Governor

Governer design. : RQV400...1250PA1113K

Governer no. : 0 421 815 376

Cust. part No. : 3926603

Customer-spec. information Customer : CDC Motor : 48TA-A

Power KW : 97.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : + 3.60 : +- 0.05

Check

tolerance mm : **←** 0.10

Rack travel in mm: 12.50 Tolerance mm : + 0.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : U-9U-18

Check

tolerance *NH : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 5.75

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

: 1 Barrel no.

# BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 14.85

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 173.5	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0	- cm3/1000S. : +- 4.0 - Spreed - Tolerance
Check tolerance : + 4.0	cm3/1000 strokes : 8.0 Check tolerance
Spreed	+ cm3/1000s. : 12.0
Tolerance cm3/1000 strokes : 8.0	CONTROL LEVER
Check tolerance cm3/1000s. : 12.0	control lever position degree : 116.0 tolerance degree : + 6.0
Rated speed rpm : 420  Rack travel in mm : 6.60	RATED SPEED  rack travel mm : 13.40  Rated speed rpm : 1310  Tolerance 1/min : +- 15
Tolerance mm : + 0.20  Del. quantity  cm3/1000 strokes : 16.0  Tolerance	rack travel mm : 4.00 Rated speed rpm : 1490 Tolerance 1/min : + 5
cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.0 Spreed	+ rack travel mm : 0.50 + Tolerance mm : + 0.50 + Rated speed rpm : 1550
Tolerance cm3/1000 strokes : 4.0 Check tolerance	<del>†</del>
cm3/1000s. : 8.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 71.5 tolerance degree : + 6.0
GUIDE SLEEVE POSITION  control lever	Control lever difference Grad: 45.5 tolerance degree: + 6.0
position degree : MAx Rated speed rpm : 1475	Setting point w/out bumper spring
Rack travel in mm : 10.50 Tolerance mm : +- 1.50	Rated speed rpm : 300  CRT mm min. : > 7.50
Tolerance mm : +- 1.50	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 420
Rated speed rpm : 1150 Aneroid pressure hPa : 1200	rack travel mm : 6.60 Tolerance mm : + 0.20
Del. quantity cm3/1000 strokes : 173.5	Rated speed rpm : 425

		+ Del. quantity
		— + cm3/1000 strokes : 150.0
TORQUE CONTROL		+ Tolerance
Rated speed rpm	: 1150	+ cm3/1000 strokes : $+$ 3.0
rack travel mm		- Check tolerance
Tolerance mm	: +- 0.05	+ cm3/1000s. : + 6.0
lotel wife will	. + 0.05	
Outsil amount	. 950	+ Spreed
Rated speed rpm	: 000	+ Tolerance
rack travel mm Tolerance mm	: 13.90	+ cm3/1000 strokes : 8.0
Tolerance mm	: ← 0.20	+ Check tolerance
		} cm3/1000s. : 12.0
Rated speed rpm		+
rack travel mm	: 14.40	
Tolerance mm	: ← 0.20	+ rack travel mm : 14.40
		+ Tolerance mm : + 0.20
ANEROID/ALTITUDE		
COMPENSATOR TEST		Aneroid pressure
COLL CHOMING IFOI		+ hPa : -
		T Dotad aread are : 4450
CETTANG		Rated speed rpm : 1150
SETTING		+ Del. quantity
		- cm3/1000 strokes : 82.0
Rated speed rpm	: 1150	+ Tolerance
Pressure hPa	: 1200	+ cm3/1000 strokes : +- 2.0
		→ Check tolerance
Rated speed rpm	: 1150	+ cm3/1000s. : + 4.0
Pressure hPa	• -	
rack travel mm	10.50	<u>í</u>
Pressure hPa rack travel mm Tolerance mm	• + 0.20	
TOTE CALLE WIN	. +- 0.20	CTAPTING FUEL DELTUEDY
SEE A DUADEMENT		+ STARTING FUEL DELIVERY
MEASUREMENT		†
		+ Set starting CRT at K-cam.
Rated speed rpm	: 1150	<b>†</b> ∙
		+
Pressure hPa		+ Rated speed rpm : 100
rack travel mm	: 13.20	Rated speed rpm : 100 rack travel mm : 12.80
Tolerance mm		Tolerance mm : +- 0.50
	3,40	+ Del. quantity
Pressure hPa	: 290	+ cm3/1000 strokes : 150.0
		Tolerance
rack travel mm		
Tolerance mm	: <b>←</b> 0.15	+ cm3/1000 strokes : +- 20.0
		+ Check tolerance
	<del></del>	- + cm3/1000s. : +- 25.0
Start interlock		+
		+
Rated speed rpm	: > 100	+
Rated speed rpm		ļ
		LOW IDLE
Check		1 200 1000
	: > 80	Pated shood now . /20
speed 1/min	: > 80	+ Rated speed rpm : 420
Check	705	T poul America de
speed 1/min	: < 325	+ Rack travel in mm: 6.60
		+ Tolerance mm : +- 0.20
		I 6.1
<del></del>	<del></del>	+ Del. quantity
FUEL DELIVERY CHA	RACTERISTICS	+ Det. quantity + cm3/1000 strokes : 16.0
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000 strokes : 16.0
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000 strokes : 16.0 + Tolerance
	RACTERISTICS	+ cm3/1000 strokes : 16.0 + Tolerance + cm3/1000 strokes : +- 3.0
Aneroid pressure		cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
	: 1200	+ cm3/1000 strokes : 16.0 + Tolerance + cm3/1000 strokes : +- 3.0

Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : 4.0

8.0